

IMPACT OF AN EXTENDED ORIENTATION PROGRAM ON ACADEMIC
PERFORMANCE AND RETENTION

by

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B.S., Kansas State University, 1998
M.S., Kansas State University, 2000

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Special Education, Counseling and Student Affairs
College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

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Abstract

This study investigated the impact of an extended orientation program, Wildcat Warm-up, on academic performance and retention. The study sought to quantify differences between students who participated in the program and those who did not attend in terms of grade point average and retention to sophomore year. Participants in the study were all domestic, full-time, freshmen undergraduate students enrolled at the institution in the fall semester (2004 to 2007).

This study sought to provide descriptive and predictability data by comparing two groups of students. One group consisted of participants in Wildcat Warm-up while the second was a comparison group matched on ACT composite score, residency status, and gender. Institutional data were analyzed, including student self-report record information, institutionally generated grade reports from the end of each semester, and enrollment information.

The participant group and comparison group were analyzed using descriptive statistics. The first two research questions provided a preliminary analysis of the overall impact of the extended orientation on the two measures identified for the study: freshman grade point averages and retention. The first research question and hypothesis were explored with a two-group independent samples Chi-square test with a dichotomous response variable. The second research question and hypothesis were explored with an analysis of variance (one-way ANOVA) for both first and second semester grade point averages. The third research question and remaining hypotheses were explored through a logistic regression analysis using the forward stepwise method.

This study found there was a relationship between retention to sophomore year and Wildcat Warm-up participation and slight significant differences between first semester grade point averages for the two groups. In both cases, the strength of the association was small, but significant. The logistic regression analysis allowed for the creation of odds ratios for the predictor variables of the study where it was discovered when all other variables remain constant, the odds of a Wildcat Warm-up participant being retained from freshman to sophomore year were 31% higher than for a non-participant. While statistical significance was found,

practical significance considerations did not allow much, if any of the variance, to be attributed to Wildcat Warm-up participation.

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CHAPTER 1 - Introduction

In fall 2006, a commission appointed by Secretary of Education Margaret Spellings presented its report, *A Test of Leadership: Changing the Future of U.S. Higher Education* (U.S. Department of Education, 2006). Higher education administrators across the country anxiously reviewed the findings. Some described the review as “a mild scolding couched in civilized language that proposed little that was new and much that was neither possible nor likely,” (Zemsky, 2007, p. B6) while others considered the report to highlight the dramatic need for improvement in U.S. higher education (U.S. Department of Education, 2006).

Access, affordability, quality, and accountability rose as common themes for continued discussion and examination. The report outlined striking differences in the rates of attendance and graduation between minority and non-minority students. Rising costs of operating colleges and universities and the rate at which the financial burden was being transferred to students through tuition and fees was questioned and deemed a prohibitive aspect of college attendance for low-income families. An associated concern about the state of the need-based student financial aid system and a recommendation for reform was introduced. The report called for performance-based college rankings over the system that relies more on reputation and fiscal resources. Institutions of all sizes and types began to consider how the information provided in the report would impact their way of serving students and in what ways the report may be a precursor to future governmental regulation or oversight.

In particular, the concepts of access and accountability in higher education seemed to rely on student retention as a measure of performance. An institution’s ability to retain all students was considered a means of measuring the accessibility of an institution for low-income Americans as compared to their more affluent peers (U.S. Department of Education, 2006). Additionally, holding institutions accountable for their ability to see students through to graduation was an important implication of the report’s findings. Graduation rates were touted as a measure of an institution’s ability to achieve its mission and the report called for more transparency in the reporting of retention and graduation data (U.S. Department of Education, 2006).

The inclusion of the retention of students as an important aspect of performance in higher education was consistent with over 35 years of investigation (Berger & Lyon, 2005; Braxton & Hirschy, 2005). Researchers have long examined the factors that influence the departure decision of students across institutional types, sizes, and missions with the understanding that finding answers to questions about why students leave college may help institutions maintain students' enrollment through graduation. Student attrition has been viewed as a failure with an expansive impact.

Overview of the Issues

Students who leave institutions prematurely without obtaining a degree present a variety of implications for the student, the institution, and society (Hagedorn, 2005). These implications have served as motivation for a growing body of research in higher education as administrators seek solutions to this perplexing problem.

Implications of Attrition

According to the United States Bureau of Labor Statistics Current Population Survey (2007), increased levels of education result in lower unemployment rates and higher earnings. The median weekly earnings for someone who has obtained a bachelor's degree is \$304 higher than someone who has some college, but no degree. Additionally, the unemployment rate increases from 2.2 percent to 3.8 percent for the same respective populations (U.S. Bureau of Labor Statistics, 2007). The lost earnings, coupled with the increased likelihood of unemployment, have had financial repercussions for students and their families with additional ramifications for higher education, the workforce, and the economy.

Ignoring student retention and graduation rates has had implications for institutions in terms of fiscal health and public reputation. The recent focus on the retention of students has been intensified in a time of tight and shrinking budgets, the need to stabilize institutional budgets, the inclusion of graduation rates as a measure of accountability, and the increased emphasis on publicized ranking systems with graduation rates as a part of those systems.

Tight and shrinking budgets have been a reality for higher education institutions across the United States. One example of the changing circumstances was the evolution of funding for public higher education institutions in Kansas where a decrease in funding from the state government was pervasive across institution size and type. In 2006, the Center for the Study of

Education Policy at Illinois State University published a document that profiled each state in the United States. The document provided “an economic and fiscal analysis of 25 year trends related to enrollment, tuition, and student financial aid in individual states” (p. 1). Table 1.1 outlines the 25 year comparison between aspects examined in the aforementioned study for the state of Kansas. Of particular interest is the comparison of higher education appropriations per full time equivalent (FTE). In 1979, Kansas allocated \$6,712 per FTE, while in 2004, Kansas allocated \$5,604 per FTE, a \$1,108 decrease (Center for the Study of Education Policy, 2006, p. 45). During the same time period, FTE enrollment in Kansas public institutions rose from 86,143 to 122,388 for a 36,245 FTE increase. The study also reported that in 2004, “Kansas ranked 36th out of 50 in state appropriations per FTE enrollment at public institutions” (p. 45).

Table 1.1 Summary Statistics State Higher Education Funding and Student Financial Aid

	1979	2004
FTE Enrollment Public Institutions	86,143	122, 388
Higher Ed Appropriations per FTE	\$6,712	\$5,604
Need-based Aid to Public Students per FTE	\$22	\$59
Tuition Public 4-year	\$1,620	\$3,177
Tuition Public 2-year	\$1,171	\$1,765
Family Income 30 th percentile, 2004 dollars	\$20,640	\$23,539
Aid-to-Tuition Ratio	1.5	2.3
Access-Cost Indicator	7.1	10.8

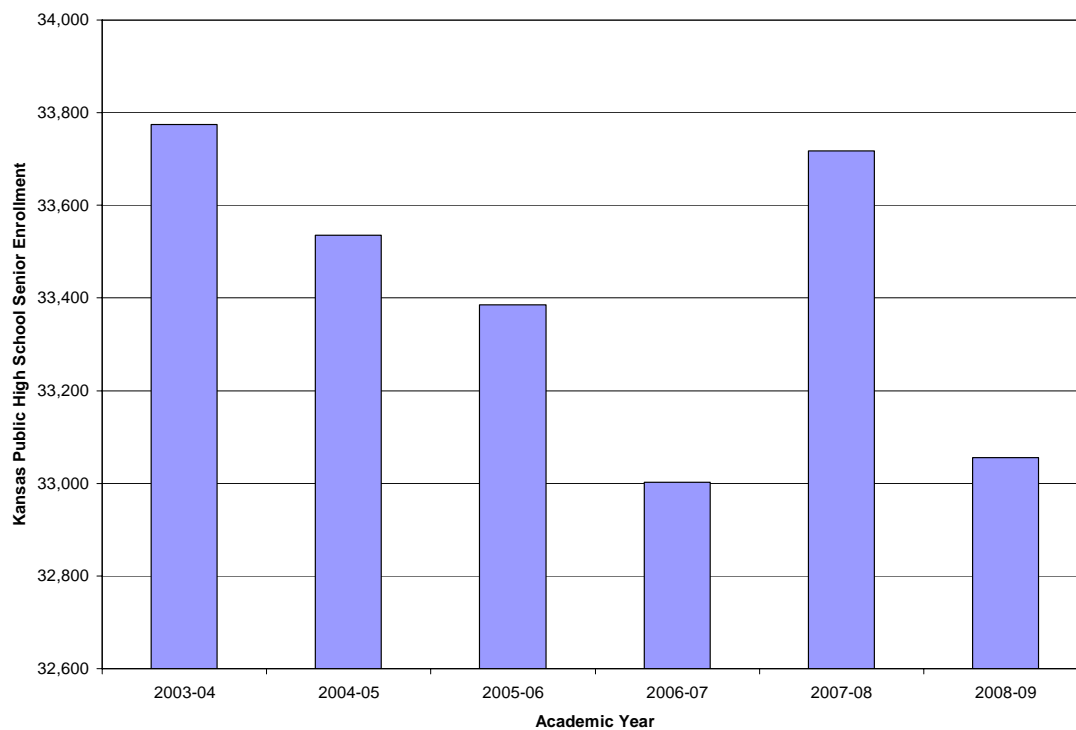
With less governmental support for higher education, administrators have adjusted the formula for financing institutional budgets. New sources of revenue have been needed to continue operations. A recent trend has been to rely more heavily on tuition and fee revenue, causing the burden of financing higher education to shift to students and their families (Schuh, 2005). This trend presents a variety of associated concerns, including increased education loan loads for students and families, decrease in attendance for lower income students, and students working more hours while going to college.

The need to stabilize institutional budgets in light of a shifting funding structure has been underscored by retention concerns. Student departure has presented a ripple effect of lost

income tied to institutional budget instability. While a student's premature departure has created certain losses for the individual, institutions also have experienced both short and long-term losses and immediate direct and indirect costs associated with that departure. Immediate direct costs have included a loss of resources invested in recruiting the student, financial aid in the form of grants or tuition waivers, tuition income, and other ancillary income (i.e. housing and dining expenditures, textbook purchases, athletic ticket purchases, visiting guests' purchases). Indirect institutional costs have included faculty and staff time. Long-term institutional costs have included lost donations of time and money from students who did not reach graduation and potentially damaging word-of-mouth public relations from unsatisfied departing students (Schuh, 2005).

Compounding concerns regarding maintaining optimum enrollments was the steady decline in high school graduates in certain regions of the country. The state of Kansas has been experiencing the aforementioned decline in public school graduates. According to statistics provided by the Kansas State University Office of Planning and Analysis (2008), between the 2003-04 and 2008-09 academic years, Kansas high school graduates decreased or were predicted to decrease by 719 students. Figure 1.1 shows a steady decline in graduates with the exception of the 2007-08 academic year where an increase to nearly 2003-04 levels was predicted. In 2004, the Kansas State University student body consisted of 81 percent Kansas residents. A declining number of Kansas high school graduates created pressure to maintain enrollments at the optimum level with a smaller pool to draw from each year.

Figure 1.1 Kansas Public High School Seniors (Actual; 2007-08 and beyond predicted)



Inclusion of graduation rates as a measure of accountability received more emphasis after a national law was passed concerning public access to retention and campus safety data. On November 8, 1990, the *Student Right-to-Know and Campus Security Act* (title II of Public Law 101-542), also known as the Clery Act, was signed into law as an amendment to the *Higher Education Act of 1965* (U.S. Department of Education, 2005). This law required all institutions of higher learning who received federal aid under Title IV of the *Higher Education Act* to reveal their graduation rates among other statistics related to campus security policies and procedures, and campus crime statistics. The goal of this legislation was to provide prospective students and their families with knowledge about institutions to make a more informed college decision.

Retention rates have become a standard element of reports to state and federal government agencies, as well as accrediting bodies (Berger & Lyon, 2005). The call for increased accountability has been echoed at the state and national levels with mandated reporting of performance measures, including retention and graduation rates. Additionally, accrediting bodies have included the same data in their institutional review. This information has been collected and reported to the general public as part of a strengthening consumer movement.

Increased emphasis on publicized ranking systems with graduation rates as part of the ranking system has been associated with the American consumers' call for more information while making the college decision. *U.S. News & World Report* has been one highly touted source of information comparing colleges and universities. This weekly national newsmagazine has ranked America's best colleges and universities based on quality and best value indicators. The rankings have increasingly become references for prospective students and their families while making the college decision. Thus, college and university administrators have had a strong interest in performing well in the competitive ranking system.

Institutional Response

In response to the changing landscape of the American higher education system, institutional administrative teams began to create plans to respond to the new challenges and requests for action. Faced with limited state-appropriated resources and mounting demands for those resources, it became imperative for administrators to consider student success and the initiatives, both those in existence and those that needed to be developed, for their campuses. Administrators recognized that improved access and increased accountability in a challenging fiscal environment called for focused attention on improvement. It was never more imperative for higher education to create an environment where students are positioned to meet their educational goals.

With fiscal stability and public reputation at stake, few institutions could ignore the importance of retaining students and achievement in publicized performance measures. Institutional resources have been allocated to programs and services in the enrollment management functions of institutions with the desire to stabilize enrollments and budgets, report positive performance measure data, and achieve status through national ranking systems. Enrollment management functions at colleges and universities have had an elevated importance in the current climate.

Enrollment management has been touted as higher education's process of "maintaining enrollments at an optimum level in regard to quantity and quality of the student body" (Berger & Lyon, 2005). Whether coordinated by an individual, committee, or division, enrollment management at a college or university has been defined as activities, policies, and procedures to influence enrollments (Hossler, 1988). Student retention, along with recruitment, financial

assistance, student services, and other aspects that influence a student's decision to stay have been included in enrollment management discussions. The field emerged in the early to mid-1970s as a reaction to waning enrollments as an institutional means of coordinating departments and resources that influence student enrollments. The term has been credited to Jack Maguire at Boston College (Hossler, 2002).

Student recruitment has been a significant resource outlay for institutions that has historically been recaptured through tuition and fee revenue of returning students. Administrators have recognized that recruiting, enrolling, and helping students persist to graduation has been more efficient and less costly than continually finding new students to enroll (Terenzini, 1982). Departure by an enrolled student equals lost tuition and fee revenue at the minimum, and coupled with the cost of recruiting a "replacement" student from high school or transfer pools, the net loss has been significant and compounding (Schuh, 2005).

Institutions have a variety of student success programs designed to help students persist through the many stages of their college experience. Orientation programs have been one of the many approaches institutions of higher learning have implemented to curtail student attrition and promote student success. A study by Pascarella, Terenzini and Wolfle (1986) found attending orientation had significant direct effects on both social integration and institutional commitment, which are two important intervening variables in the retention causal model. A more recent study by the Pell Institute (2004) reported that institutions successful in retaining students to graduation had extra programs that helped students' adjust to college and smooth the entry to the collegiate environment.

Orientation programs have long provided students with an introduction to the college environment. McGinty Stodt (1987) described "a well-designed orientation program" as one that "initiates the student's involvement with the college, assists with adjustment, fosters college friendships and interaction with faculty, and explores the student's career choices" (p. 25). Orientation programs are generally thought to promote learning in three general areas: transition processes, academic integration, and personal and social integration (Robinson, Burns & Gaw, 1996).

Strengthening orientation programs has been one means of improving student retention rates at institutions of higher learning. College administrators have placed a value on the orientation experience as an initial student success program and have positioned orientation as a

gateway into the college environment that directs students to resources and services. A comprehensive orientation program has become a student service that connects students with additional retention programs and services. As retention has become an increasingly important measure of access, quality, and the ability to serve students and families, programs that support this goal have found a parallel level of interest and scrutiny regarding the success of the participants in the orientation activities.

Statement of the Problem

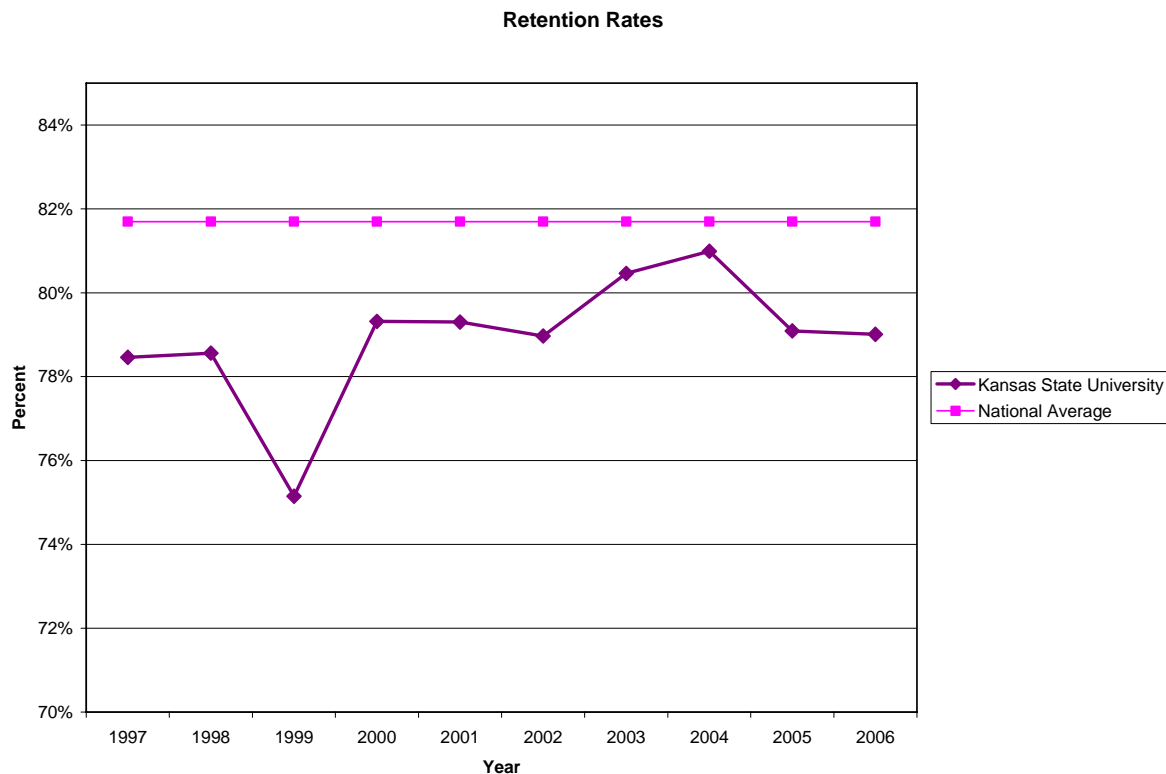
Many higher education institutions in the United States have encountered challenges in managing undergraduate enrollments. Coupled with the increased call for transparency from the progressively more consumer-minded public and governmental entities, the view of retention and graduation rates is changing. Retention of students has become not only a fiscal concern, but also a measure of how well institutions are serving their students.

Kansas State University, a land-grant, comprehensive institution located in Manhattan, Kansas has placed special emphasis on retention efforts. The greater emphasis was in response to recognition that the institution's freshman to sophomore year retention rates were below the 81.7 percent national average and have been since as early as 1984 (Kansas State University Planning and Analysis, 2007). In 1997, the freshman to sophomore year retention rate at Kansas State University was 78.46 percent. The retention rate reached a low of 75.15 percent in 1999 and climbed back to 81 percent in 2004 before experiencing a slight decline to 79.09 percent and 79.01 percent in 2005 and 2006 respectively (Kansas State University Planning and Analysis, 2007).

American College Testing, Inc. (2006) has compiled a database of information on first to second year retention rates and persistence to degree rates for institutions of all types and levels of selectivity. Since 1983, this information has been gathered from the ACT Institutional Data Questionnaire, which is administered to two-year and four-year postsecondary institutions. Figure 1.2 shows the freshman to sophomore retention rate for Kansas State University over a 10-year period with the national first to second year retention rate for four-year public colleges identified as *selective*. "Selective institutions are those where a majority of the student body are admitted from the top twenty-five percent of their high school class, and have a the middle fifty percent of the student body scoring between 22-27 on the ACT and 1030-1220 on the SAT"

(ACT Institutional Data File, 2006). Kansas State University was defined as a *selective* institution based on the ACT-defined parameters (Mike Lynch, personal conversation, April 9, 2008). The first to second year retention rates for four-year public colleges identified as selective was 81.7 percent (ACT National Collegiate Retention and Persistence to Degree Rates, 2006).

Figure 1.2 Kansas State University Freshman to Sophomore Retention Rate (1996-2006)



As outside pressures drive institutional leaders to maintain enrollments through higher freshman to sophomore retention rates, an associated effect has been felt in orientation programs. The quality of orientation experiences has been examined and some institutions have modified existing programs or implemented new initiatives in response to the changing educational environment. As changes have been implemented, a reconfiguration or outlay of resources has been necessary. As new resources are applied to programs, the call for accountability has also been present at the program level.

Purpose of the Study

The purpose of this study was to investigate the impact of an extended orientation program on academic performance and retention. The study sought to quantify differences between students at Kansas State University who participated in the extended orientation program and those who did not attend. Academic performance was measured by grade point average at the end of the first and second semesters of the freshman year. Retention was measured by persistence to the sophomore year.

Research Questions

1. Is there a relationship between participation in Wildcat Warm-up, an optional extended orientation program offered at Kansas State University, and retention from freshman to sophomore year when compared with a matched group who did not attend the program?
2. Are there significant differences in academic performance, measured by grade point average, at the end of the first and second semesters of the freshman year between participants in Wildcat Warm-up when compared with a matched group of those who did not attend the program?
3. Are there reliable associations between students' entry characteristics (gender, ACT composite score, and first-generation status) and freshman to sophomore retention rate when considering Wildcat Warm-up participation?

Significance of the Study

The purpose of this study was to provide information about the impact of the extended orientation program, Wildcat Warm-up, to administrators and student leaders in the researcher's institution, a Midwestern land-grant university with enrollment of more than 20,000 students. The administrators and student leaders have invested resources in the development of the program since 2004 and have a strong interest in measuring their return on investment.

Providing data related to the impact of the extended orientation program at the investigator's institution may result in information beneficial to administrators and student leaders at similar institutions. As the concern for stabilizing or increasing retention rates rises, the need for effective programs and services has also increased. The researcher is also interested in adding to the body of literature in the area of retention and orientation program effectiveness.

Limitations

Following are some of the limitations of this study:

- This study was limited by the single institution sample. The study presented limited opportunity to generalize to situations beyond the conditions present in the study. While extended orientation programs are being offered at campuses throughout the country, programs are not identical in terms of topics, schedule, or format.
- Retention has historically been a complex phenomenon that involves a variety of factors. The study focused on institutional data and does not take into account the individual stories of students who leave the campus. Additionally, motivation levels of students were not considered.
- The treatment group was self-selected through registration for the program. The optional nature of the program and the fact that a registration fee was required limits the ability to randomly sample participants for the intervention from the general student body. Thus, the treatment group reflects the students who had the motivation, fiscal resources, and time to attend.

Definitions

Grade point average (GPA) is “a measure of scholastic performance. A GPA is obtained by dividing the number of grade points by the hours of work attempted, where an A = 4 points, a B = 3 points, a C = 2 points, a D = 1 point, and an F = 0 points” (Kansas State University, 2008).

Orientation and enrollment at Kansas State University is a single-day, required program for new students and their families.

Orientation programs are designed to help student make a successful transition to the college environment and to initiate the process of higher learning (Robinson, Burns & Gaw, 1996).

Retention rate is “a measure of the rate at which students persist in their educational program at an institution, expressed as a percentage. For four-year institutions, this is the percentage of first-time bachelors (or equivalent) degree-seeking undergraduates from the previous fall who are again enrolled in the current fall” (National Center for Educational Statistics, retrieved April 8, 2008).

“*Student success* is defined as academic achievement; engagement in educationally purposeful activities; satisfaction; acquisition of desired knowledge, skills, and competencies; persistence; and attainment of educational objectives” (Kuh, Kinzie, Buckley, Bridges & Hayek, 2006, p. 10).

Wildcat Warm-up is an optional extended orientation program at Kansas State University. Attendees are self-selected new freshman students who attend the three-day, two-night program in the June before their freshman year.

Wildcat Warm-up Program Description

Kansas State University implemented an undergraduate student retention initiative in 2004. Wildcat Warm-up was established as a three-day, two-night enhanced orientation experience for new freshmen students. The primary focus of the program was to increase student retention. The program approached this goal through learning objectives centered on increasing knowledge about the campus and programs and services available to students: creating strong connections between the participants (new students), current students, faculty, staff and alumni; and translating the values, culture, and traditions that make attendance at Kansas State University a unique and valuable undergraduate experience. The program was established in the New Student Services department with the Assistant Dean of Student Life/Coordinator of New Student Services directing the work of the four student directors and 20 student counselors.

The main themes for the content of Wildcat Warm-up remained constant since 2004. A campus planning committee was convened in spring 2004 to outline the learning objectives for the program. The committee determined the following should be addressed through various programming mediums: campus values, cultures, and traditions; relationship building between the freshman participants, current K-State students, faculty/staff, and alumni; campus-wide philanthropic efforts; healthy relationships and sexual assault prevention; diversity; and student academic success strategies. A schedule of events for participants is provided in Appendix A.

Impact on the Student Body of Kansas State University

Wildcat Warm-up has hosted 872 new students in the first four years of the program. Participants have been a representative mix of in-state and out-of-state students, students from small and large towns, and students from a variety of racial and ethnic backgrounds. The student

participants in each year's Wildcat Warm-up cohort have been viewed as a small group that will be a catalyst in developing their peers by serving as leaders for their class and the campus community, transferring the values, culture, and traditions of the campus, and utilizing and sharing information critical to student retention. The program staff and administrators have promoted the idea to participants and other constituents that Wildcat Warm-up participants influence their peers and help promote and provide opportunities for shared success.

Program Funding

Wildcat Warm-up has been funded by three sources: Student-Centered Tuition Enhancement funds, student participant fees (registration of approximately \$150 per person), and sponsorship (both cash donations and in-kind contributions). The Student-Centered Tuition Enhancement funds have been allocated on an annual basis by the Kansas State University Student Governing Association. Funding has been secured through a competitive proposal and presentation process and has been confirmed by the Student Governing Association by vote. Registration fees began in 2004 at \$100 and increased to the \$150 per person level for the 2008 program year. The Manhattan, Kansas community that houses the Kansas State University campus has been engaged in supporting the program since its inception. Campus and community groups have given generously of their time, monetary funds, and in-kind donations.

Summary

The issue of college student retention has increasingly become an important measure of performance and accountability for institutions of higher learning. The implications of high rates of student attrition have influence of highly publicized national rankings, accreditation review, and budgetary considerations. Fiscal stability, public reputation, and academic credentials, have been important motivating forces in the efforts to improve retention of college students. Institutional initiatives have been implemented in a variety of forms and fashions to address the issue. Enhanced orientation programs have been one initiative used by institutions to attempt to better acclimate students to their new campuses. In 2004, Kansas State University implemented an undergraduate student retention initiative, Wildcat Warm-up. This program hosted 872 students in the first four years of the program. The program was designed to achieve gains in the freshman to sophomore retention rate to above the national average for similar institutions.

CHAPTER 2 - Review of Literature

Chapter two focuses on the review of literature relevant to the topics of retention and persistence behaviors of new college students as well as those related to orientation programs. The first portion of this chapter focuses on the history, theoretical perspectives, and models related to the retention and persistence of college students at American institutions of higher education. The second portion focuses on an overview of the role of orientation programs in the higher education system and the value of these programs in student success and retention.

Retention and Persistence

For centuries, administrators at American institutions of higher education have been concerned about retaining students between matriculation and degree completion. As the American higher education system has changed over time, so has the importance of this measure of institutional and student success. The past 35 years have found an increasingly powerful emphasis on the study of college student retention due to a convergence of societal and economic factors.

History of College Student Retention

With the founding of Harvard University in 1636 came the initial discussion of college student retention (Kowalski, 1977). At the beginning of the American higher education system the interest in retention was tempered by other competing issues such as the availability of individuals to enroll, the low demand for college-educated citizens, and administrators' concern with the fundamentals of opening and sustaining institutions of higher education. Institutions in the early years found degree attainment to be rare because of the nature of a young nation and the fact that few students enrolled in college and even fewer began college with the intention of completing a degree (Berger & Lyon, 2005). As the American higher education system evolved in complexity and the number of students served, a parallel expansion of the issue of retaining college students occurred.

Berger and Lyon (2005) reported that institutions began to become more selective around the early 1900s. The increased selectivity and increasing number of students with a desire to attend college led to the creation of more institutions. A college degree became more valuable as graduate and professional schools began to favor students with a college diploma over students with just some college work. With more available colleges and more students seeking a college education, the need for differentiation among competing colleges contributed to an increased interest in the rate of degree completions as one means of comparing institutions.

In 1938, John McNeely published the first study on college student retention (Berger & Lyon, 2005). The landmark study, "College Student Mortality," was across sixty institutions and considered a multitude of institutional retention measures, personal characteristics of students, and reasons for departure. The Great Depression and World War II shifted attention away from higher education and retention studies, while later the post-war enrollment boom associated with the GI Bill caused increased interest in higher education. The need for a college degree and the related economic and societal opportunities increased over time and students enrolled in college at unprecedented rates.

Higher education administrators began to consider the importance of retaining students as more students enrolled in college. However, it was not until college enrollment forecasters began to predict stagnant or declining enrollments in the early 1970's that retention was determined to be significantly importance. Adding complexity to the issue was the diversity of the students enrolled in college, some of whom had inadequate academic preparation (Berger & Lyon, 2005). A divide was present between admissions standards and practices and retention efforts.

The 1980's brought a bridging of the gap between recruiting, enrolling, and retaining students with the development of a new field in higher education - enrollment management. Enrollment management has been defined as

a process, or an activity, that influences the size, the shape, and the characteristics of a student body by directing institutional efforts in marketing, recruitment, and admissions as well as pricing and financial aid. In addition, the process exerts a significant influence on academic advising, institutional research agendas, orientation, retention studies, and student services. It is not simply an administrative process. Enrollment management involves the entire campus. (Hossler, 1984, p. 6)

As the study of retention continued, it was of particular importance for institutions of higher learning to understand the factors that encourage students to remain in college. As college enrollments have diversified in age, race, ethnicity, and other demographic factors, so has the focus of retention research. The increasingly diverse student body has resulted in different ways of approaching a college education. The traditional model of attending college immediately following high school and completing a degree in four years while enrolled at a single institution no longer applies to many students. Thus, institutions have had to devise appropriate and responsive programs to serve students and a more accurate means to measure their progress toward degree attainment.

College Student Retention Today

Student enrollments have become more complex over time. The traditional measures of retention have expanded beyond the basic model of tracking a student from enrollment to degree completion where a student enrolled and remained enrolled for consecutive semesters until all requirements were met. Institutions of higher education have found that students present an array of enrollment patterns that make it difficult to accurately track and measure student retention, including students transferring to or concurrently enrolling in other institutions, breaks in enrollments (stop outs), and leaving the institution (drop outs). *Swirling*, or the process of enrolling in multiple institutions over time in order to complete a degree has emerged as a trend that impacts retention at the institutional level (Mortenson, 2005). Ultimately, multiple institutions may serve students while they pursue a degree, but only one institution will be given credit for their degree completion.

According to the National Freshman Attitudes Report by Noel-Levitz, Inc. (2008), new first-year students in fall 2007 “were overwhelmingly positive about continuing and completing their education with 94.9 percent having a strong desire to complete their degree, 93.9 percent who described themselves as strongly dedicated to the goal, and 89.3 percent who identified themselves as deeply committed and prepared to make effort and sacrifices” (p. 6). This study implied that students initially have a strong interest, desire, and motivation to complete a college degree. Though the study reports high levels of initial motivation on the part of entering students, the national rate of students persisting to graduation presents a different view with only 47 percent of the entering college students completing their degree within five years (ACT, Inc.,

2007; Noel-Levitz, Inc., 2008). Studies that have considered six-year graduation rates have shown that institutions have failed to graduate a significant number of additional students. Carey (2004) found that nearly one out of five four-year institutions graduated fewer than one-third of their first-time, full-time degree-seeking students within six years.

Why Students Leave College

The identification of specific reasons why students depart or stay in college has been difficult. Retention has been described as a complex phenomenon that combines personal, social, academic, environmental, financial, emotional, and psychological factors (Kowalski, 1977; Lenning, Beal, and Sauer, 1980; Porter, 1990). Some of these variables add to the complexity of the exploration of retention issues by the very nature with which they can be measured. Some variables have been easily quantifiable while others have been qualitative and difficult to measure with validity and reliability (Lenning, 1982). The dynamic interaction between variables has further added to the convolution of this research.

College student retention research has reported many factors that contribute to retention from freshman to sophomore year, including academic integration (Pascarella & Terenzini, 2005; Tinto, 1975, 1993; Wolcott, 2006), social integration (Pascarella & Terenzini, 2005; Tinto, 1975, 1993; Wolcott, 2006), gender (Reason, 2003), socio-economic status (Porter, 1990), and academic ability (Pascarella & Terenzini, 2005; Porter, 1990), among others. The literature provided support for a few key predictors that seem to best determine if a student will persist to graduation. Academic achievement measured by high school grade point average or performance on standardized tests (Robbins, Lauver, Le, Davis, Langley, & Carlstrom, 2004), academic self-efficacy and motivation (Pascarella & Terenzini, 1991; Robbins, Lauver, et al., 2004), and academic and social integration (Astin, 1993; Tinto, 1982, 1986; Pascarella & Terenzini, 1991) emerged as the key variables in influencing college student retention.

Pascarella and Terenzini (2005) reported in their book *How College Affects Students* that academic performance, specifically, students' grades "make statistically significant, frequently substantial, and indeed often the largest contribution to student persistence and attainment" (p. 397). Additionally, grades achieved in a student's first year of college had a strong and direct influence on persistence into the second year. Pascarella and Terenini's (2005) work has been a

more than 20-year examination of studies that consider how college impacts students in a variety of domains in relation to theoretical models of college student change.

Scores on standardized college entrance tests have been considered a variable that overlaps with high school grade point average. ACT, Inc. (2006) reported the first to second year retention data for four-year public colleges by admissions selectivity. The selectivity designation was determined primarily by the average ACT score of the student body comprising the institution. As the selectivity of the institution increased, the percentage of students retained also increased. Specifically, highly selective institutions have a retention rate of nearly 93 percent while open enrollment institutions have a retention rate of nearly 67 percent. Tross, Harper, Osher, & Kneidinger (2000) found that 29 percent of the variation in retention could be attributed to self-reported high school grade point average and standardized test scores. High school grade point average still accounted for a vast percentage of this relationship at 25 percent with the standardized test scores making up the balance. Astin and Oseguera (2005) clarified that:

the main reason why admissions test scores are related to college degree completion was that students with high test scores also tend to get good grades and take more years of foreign language in high school, have well-educated parents, attend selective colleges, and live in campus residence halls during their freshman year. (p. 258)

Kuh (2001) maintained that the most effective way to increase the number of successful students was to admit only well-prepared, academically talented students.

Academic self-efficacy, or the belief about one's ability to complete a task or perform to a particular standard, has been discussed in more recent college student retention literature. Robbins et al. (2004) found "academic self-efficacy to be one of the best psychosocial and study skill factors in predicting college grade point average" (p. 271). Pascarella and Terenzini (2005) reported self-efficacy had a positive correlation with academic performance.

DuBrock (1999) found an important connection between retention and residency. The residency status of students has been found to influence retention as the issue of residency has been tied to student finances and the ability to pay for college. Students who have been classified as nonresident (or out-of-state) typically have paid a higher tuition rate. If a student was not able to establish residency and obtain a lower tuition rate, the student would typically pay a significantly higher rate for nonresident tuition and encounter greater challenges to student

persistence in the first two years of college. DuBrock (1999) found that undergraduates classified as out-of-state were 1.93 times less likely to continue for a second year and 2.04 times less likely to return for a third year.

Nora, Barlow, and Crisp (2005) reported that tuition and the ability to pay educational expenses affects retention. The researchers found that 72.9 percent of students who paid instate tuition returned for the sophomore year while only 44.7 percent of students paying the nonresident tuition rate returned. The same study found that students who paid no tuition returned for the sophomore year at a rate of 81.7 percent.

Researchers have found significant differences in retention and graduation rates based on gender. DuBrock (1999) found that female students were more likely to return for their second and fourth years of college, while male students were more likely to return for their third year of college. Astin and Oseguera (2005) reported that women are more likely to obtain a degree with higher four-year and six-year graduation rates. Four-year degree completion rates were reported as 40 percent for women and 33 percent for men. Six-year graduation rates were reported as 60 percent for women and 55 percent for men.

Academic and social integration have been at the center of two landmark college student retention models. Tinto's interactionalist theory combined the psychological and organizational theoretical models in which students' entry characteristics (i.e. gender, race, academic ability, socioeconomic status, parental education, high school academic achievement, ability to pay) in combination with the initial commitment to the institution, social integration, and institutional efforts, result in students' retention decisions (Astin, 2003; Berger & Lyon, 2005; Braxton & Hirschy, 2005; Pascarella & Terenzini, 2005). Astin's model promoted the concept that the more engaged or involved students were in the academic and social aspects of college, the more likely students were to persist (Astin, 2003; Braxton & Hirschy, 2005; Pascarella & Terenzini, 2005).

The study of student retention has focused on determining when students leave campuses in an effort to help explain why students leave. Nora, Barlow, and Crisp (2005) reported that slightly over 25 percent of students are lost between the initial enrollment and the second year of college, and another 17 percent between year two and three, and another nine percent from year three to four. Additionally, ACT (2006) reported that across all institutions, regardless of

selectivity or the type of degrees offered, students were retained from freshman to sophomore year at a rate of 74 percent.

Retention researchers (Tinto, 1982; Pascarella, Terenzini, & Wolfe, 1986; McGinty Stodt, 1987) recognized that the critical time for college student retention was between the first and second year. Not only was attrition more likely during this period, but there was also an increased likelihood that the departure was voluntary and not based on academic dismissal. Higher education administrators have been challenged to discover the appropriate mix of interventions to capture the students who are leaving the institution, yet could be retained.

Importance of Retention

College student retention has had many stakeholders. Kowalski (1977) maintained that college attrition was not only a personal loss to the individual student, but also a loss to the institution and society as a whole. Individuals who have not completed college have been considered at a disadvantage for fiscal gains and societal mobility. The impact of college student retention has been felt at the institutional level as administrators have sought to manage fiscal health and public reputation. Further, societies have been considered more progressive and productive in relation to an increased number of college graduates or educated citizens.

While it has been difficult to measure the impact of leaving college on the individual student, differences in earning and employment rates have been estimated by researchers. Pascarella and Terenzini (2005) reported that college attendance influenced the individual's long-term occupation choice, earnings, cognitive development, moral development, values, and attitudes, as well as the overall lifestyle of the individual's children. As discussed in Chapter One of this dissertation, the United States Bureau of Labor Statistics Current Population Survey (2007) reported that increased levels of education resulted in lower unemployment rates and higher earnings. The median weekly earnings for someone who has obtained a bachelor's degree is \$304 higher than someone who has some college but no degree. Additionally, the unemployment rate increases from 2.2 percent to 3.8 percent for the same populations respectively (U.S. Bureau of Labor Statistics, 2007). The lost earnings, coupled with the increased likelihood of unemployment, have equaled financial repercussions for students and their families with additional ramifications for higher education, the workforce, and the economy.

Institutions of higher education have embraced a reality that requires retention to be considered as a critical issue. Cambiano, Denny, and Devore (2000) stated that retention is important because it builds stability into a university system. As stated in Chapter one of this dissertation, student attrition has presented a ripple effect of lost income that has been tied to institutional budget instability. While a student's premature departure has created certain losses for the individual, institutions also have experienced both short and long-term losses and immediate direct and indirect costs associated with that departure. Immediate direct costs have included a loss of resources invested in recruiting the student, financial aid in the form of grants or tuition waivers, tuition income, and other ancillary income (i.e. housing and dining expenditures, textbook purchases, athletic ticket purchases, visiting guests' purchases). Indirect institutional costs have included faculty and staff time. Long-term institutional costs have included lost donations of time and money from students who did not reach graduation and potentially damaging word-of-mouth public relations from unsatisfied departing students (Schuh, 2005). With a high and constant rate of retention, universities have been able to expand their benefits and offerings to enhance student interest and further stabilize the institution. When institutions have a low or inconsistent retention rate, the fiscal health of the institution and the overall climate have been uncertain at best (Lenning, Denny, & Devore, 2000).

Institutions of higher education have had the added pressure of maintaining competitive retention and graduation rates with the inclusion of this data as a measure of accountability. Additionally, there has been an increased emphasis on publicized ranking systems with graduation rates as a component. The inclusion of graduation rates as a measure of accountability received more emphasis after the Clery Act was passed concerning public access to retention and campus safety data. On November 8, 1990, the *Student Right-to-Know and Campus Security Act* (title II of Public Law 101-542), also known as the Clery Act, was signed into law as an amendment to the *Higher Education Act of 1965* (U.S. Department of Education, 2005). This law required all institutions of higher learning who received federal aid under Title IV of the *Higher Education Act* to reveal their graduation rates among other statistics related to campus security policies and procedures, and campus crime statistics. The goal of this legislation was to provide prospective students and their families with knowledge about institutions to make a more informed college decision.

Retention rates have become standard elements of reports to state and federal government agencies, as well as accrediting bodies (Berger & Lyon, 2005). The call for increased accountability has been echoed at the state and national levels with mandated reporting of performance measures, including retention and graduation rates. Additionally, accrediting bodies have included the same data in their institutional review. This information has been collected and reported to the general public as part of a strengthening consumer movement.

Increased emphasis on publicized ranking systems with graduation rates as part of the ranking system has been associated with the American consumers' call for more information while making the college decision. *U.S. News & World Report* has been one highly touted source of information comparing colleges and universities. This weekly national newsmagazine has ranked America's best colleges and universities based on quality and best value indicators. The rankings have increasingly become references for prospective students and their families while making the college decision. Thus, college and university administrators have had a strong interest in performing well in the competitive ranking system.

Beyond the concern for the impact on the individual and the institution, society as a whole has been impacted by retention issues. Baum and Payea (2005) reported several benefits to the general public as a result of individual citizens obtaining higher levels of education. The benefits included increased tax revenues, lower levels of unemployment and poverty, and less dependency on government-sponsored social programs. Individuals who obtain higher levels of education have been less likely to smoke or be incarcerated. Additionally, higher rates of volunteer work, voting, and blood donation have been reported for those with higher levels of education.

Theoretical Perspectives and Retention Models

Researchers have developed a variety of theories and models of student attrition. At the focus of the research has been unraveling the factors that impact the decision to continue or dropout of college with the goal of creating information to predict which students are most likely to dropout (Bean, 1982). According to Porter (1990), the most prominent and commonly used models of institutional effects have been attributed to Tinto's academic and social integration model and Astin's involvement model.

Tinto's Theory for Student Departure

Vincent Tinto (1975, 1993) developed an interactionalist theory for student departure by expanding Spady's (1970) work on an application of a theory of suicide. Tinto's model focused on the interaction between the student and the environment, specifically the academic and social systems of the institution (Braxton & Hirschy, 2005; Braxton & Lee, 2005; Braxton, Milem, Reason, 2003; Caison, 2004; Sullivan, 2000; Tinto, 1975, 1993). The characteristics students have as they enter college (i.e. family socioeconomic status, parental education, academic ability, race, gender, high school academic achievement, ability to pay) have effected their decision to stay in college or leave. The personal characteristics, along with the students' commitment to the goal of college attendance/graduation and to the institution, have effected students' integration into the social and academic environments of the campus.

Tinto's (1975, 1993) model of student persistence points to two main factors in the retention of college students - social integration and academic integration. Wolcott (2006) described social integration as the degree to which students "adapt to the social atmosphere of the campus including life outside the classroom, maintaining family and peer relationships, and being involved in co-curricular activities" (p. 13). Academic integration was defined as "a concern for the formal education of students in the classroom and interaction with faculty" (p. 13). Pascarella, Terenzini, and Wolf (1986) supported a lower likelihood of voluntary withdrawal from an institution when higher levels of academic and social integration led to an increased commitment to the institution. Pascarella, Terenzini, and Wolfe (1986) maintained that "when other factors are held constant, the stronger the individual's level of social and academic integration, the greater his or her subsequent commitment to the institution and to the goal of college graduation" (p. 155). A copy of Tinto's longitudinal model of institutional departure is provided in Appendix B.

Astin's Theory of Involvement

Astin's (1993) theory promoted involvement or the need for a point of identification for the individual with the institution. In this theory, persistence has been supported by a student's ties to an area at the institution where she has sufficient involvement to make and keep a connection and she is able to test the *goodness of fit* between herself and the environment (Porter, 1990).

The more students were involved in academics and college life, the more likely students were to be retained. The decision to stay in college or to leave has been tied to the amount of physical and psychological energy invested in the social and academic environments. The institutional environment played a large role in student integration and success because the campus had to provide adequate opportunities for a high degree of student engagement (Pascarella & Terenzini, 2005).

Bean's Model of Student Departure

Bean's (1980) model of student departure was based on organizational structure and organizational behavior. A model of employee departure in work organizations was adapted to the issue of college student retention. The combination of variables was related to satisfaction and the decision to leave college. The variables included students' background characteristics and the interaction with the campus environment. The students' levels of satisfaction with the institution have been tied to the level of institutional commitment and ultimately, the likelihood of departure (Braxton & Hirschy, 2005). Bean presented a revised model of student departure and concluded that students' peers played an important role in socialization while informal faculty contact played less of a role, students played a more active role in their socialization than previously thought, and college grades seemed more the product of selection than socialization.

Bean and Eaton's Psychological Model of College Student Retention

Bean and Eaton (2001-2003) presented a model of student departure that combined multiple psychological theories. The foundation of the model was connected to academic and social integration. The inputs of student characteristics and background influenced how students interacted with the college environment. Experiences in the environment affected students' motivation for success. Attitude, coping ability, self-efficacy, and internal locus of control were all presented as central to this model. The outputs of the model were described as academic and social integration, institutional fit and loyalty, intent to persist, and persistence (Braxton & Hirschy, 2005). Programs and services supported by this model included service-learning, freshman interest groups and learning communities, freshman orientation seminars, and mentoring programs.

Orientation Programs

Orientation programs have long been a part of institutions of higher learning. Daddona and Cooper (2002) stated that institutions of higher learning have implemented orientation programs or a similar experience designed to provide support and assistance to the incoming freshman class for over 100 years. Harvard College began orientation programs in the United States with the first formal experience that matched older students with new students as a means of assisting with the transition to college. The orientation program was expanded when faculty members were assigned duties beyond the classroom, including orienting new students (Busby & Strumpf, 2006). As institutions of higher education have become more complex and as the student bodies comprising the institutions have become more diverse, the role of orientation programs has been established as a critical transition point through which students enter the community. According to the National Survey of Student Engagement Annual Report (2005), 87 percent of first-year students attended an institution-sponsored orientation program. Orientation programs have historically played an important role in the first-year experience for new college students.

Purpose of Orientation Programs

Institutions across the country have utilized orientation programs as a conduit to the higher learning community. The purpose of an orientation experience has been defined through the literature as a means for promoting student success through structured experiences designed to engage new members of a community and provide access to tools for success. Specifically, Upcraft and Farnsworth (1984) defined orientation programs as “any effort to help first-year students enhance success and make the transition from their previous environment to the collegiate environment” (p. 27). Busby, Gammel and Jeffcoat (2002) called orientation programs “a transition structure between a student’s past and future learning experiences” (p. 45).

While most orientation programs have shared the common purpose of creating a structured transition to meet the needs of new students, the approach to orientation functions has varied. Some programs have been designed as multi-day, residential experiences, while others are single-day programs. Additionally, extended orientation programs, wilderness experiences, and international travel programs have been included in an array of enhanced orientation

programs. Depending on the type, size, and mission of the institution, orientation programs have been shown to take a multitude of approaches in meeting institutional objectives and assisting students (Daddona & Cooper, 2002).

According to Capps and Miller (2006), orientation programs have been an important first step in engaging students in the campus community. It has been viewed as one of the first and perhaps the only opportunity to create awareness, provide information, and reframe expectations for their students in a collective setting early in the students' college careers (Moxley, Najor-Durack, & Dumbrigue, 2001). Institutions have found that the opportunity exists to transfer important cultural norms such as the administrative regulations and expected behaviors (Busby, Gammel, & Jeffcoat, 2002; Pascarella, Terenzini, & Wolfe, 1986), how the institution functions (Moxley, Najor-Durack, & Dumbrigue, 2001), and the facilities, programs, and services available at the institution (Upcraft & Farnsworth, 1984). Information on available resources, student organizations and activities, and student services has historically been provided as part of orientation programs (Busby, Gammel, & Jeffcoat, 2002; Moxley, Najor-Durack, & Dumbrigue, 2001; Pascarella, Terenzini, & Wolfe, 1986). Orientation has been viewed as the first opportunity for institutions to bring together the students' expectations, attitudes, and feelings with those of the institution (Moxley, Najor-Durack, & Dumbrigue, 2001). Orientation programs have not only helped students understand campus procedures and college life, but have also allowed institutions to learn more about their new students (Upcraft & Farnsworth, 1984, p. 28). Orientation has represented the first substantial gathering of new students in an environment where they begin to interface with the institution. Information about the new students that has previously not been available through admissions data has been gathered.

Orientation programs have also filled an important purpose of assisting students with the academic and social adjustments associated with beginning in a new environment. Pascarella, Terenzini, and Wolfe (1986) spoke to the importance of orientation programs facilitating the successful integration into a new and unfamiliar academic and social setting. Successful integration in the college environment has long been associated with student success, measured by grade point average and retention.

The orientation experience has been cited as essential in students' academic adjustment to college through the opportunity to meet faculty, staff, and other students (Busby, Gammel, & Jeffcoat, 2002; Pascarella, Terenzini, & Wolfe, 1986; Upcraft & Farnsworth, 1984), begin to

plan an academic course of study (Pascarella, Terenzini, & Wolfe, 1986), and to address career development (Moxley, Najor-Durack, & Dumbrigue, 2001; Upcraft, Finney, & Garland, 1984). Students have been able to establish important connections to the academic community by learning to relate to faculty and other members of the collegiate environment and to adjust to the demands of the new academic climate, along with managing the other aspects of their lives that affect academic success (Upcraft, Finney, & Garland, 1984).

Students' personal or social adjustment to college has been identified as a central aspect of student success promoted through orientation program participation (Upcraft & Farnsworth, 1984). Some institutions have included program components to facilitate networking among students and help students form initial friendships with their peers (Moxley, Najor-Durack, & Dumbrigue, 2001; Upcraft, Finney, & Garland, 1984). The opportunity to establish involvement in student organizations (Busby, Gammel, & Jeffcoat, 2002) and develop an interpersonal support system with their fellow students (Upcraft, Finney, and Garland, 1984) were related to fostering engagement within the campus community. Community building has been an important component of orientation programs. Robinson, Burns, and Gaw (1996) described orientation as "a community-building experience for the campus; new students should feel a sense of connection and commitment to the campus after participating in an orientation program" (p. 55). Pascarella, Terenzini, and Wolfe (1986) described orientation experiences as an opportunity for institutions to impact "anticipatory socialization or the process or set of experiences through which individuals come to anticipate correctly the values, norms, and behaviors they will encounter in a new social setting" (p. 156-157).

In addition to the need to serve new students' during their adjustment to the collegiate environment, orientation programs have also been serving parents and family members of new students (Upcraft & Farnsworth, 1984). Institutions that have maintained a more traditional population of students have encountered entering classes where many members were "on their own for the first time, have a desire to affiliate and identify with others, and see college as an exciting time of experimentation, new experiences, and missing home and family" (Moore, Peterson, & Wirag, 1984, p. 40). Robinson, Burns, and Gaw (1996) described "successful orientation programming as that which promotes confidence among matriculating students and their families that they have selected an appropriate institution that may lead to a successful college experience" (p. 55).

Structure of Orientation Programs

The type and structure of orientation activities has historically varied from institution to institution. Students enrolling in college campuses have found a variety of required or optional orientation experiences including prospective student events, orientation and enrollment programs, extended orientation opportunities, welcome week activities, and enrollment in first-year experience courses. Students have also found orientation activities within their living groups, academic programs, and special interest groups.

Despite the array of orientation programs, some degree of organization has been established. Upcraft and Farnsworth (1984) divided orientation activities into three phases: “pre-enrollment, initial enrollment, and the rest of the first year” (p. 29). In a later work, Perigo and Upcraft (1989) categorized orientation activities into three subcategories: “pre-admission activities in which prospective students were informed about the institution through campus visitations and written materials, pre-enrollment activities before the freshman year, and initial enrollment which typically occurred before classes began and continued throughout the first semester” (p. 85).

Standards

The Council for the Advancement of Standards in Higher Education (CAS) has provided the CAS Professional Standards for Higher Education (sixth edition) to outline standards for 34 functional areas. The CAS Orientation Programs Standards and Guidelines have provided the criteria for program evaluation in terms of quality and appropriateness. Developed in concert with researchers and practitioners, these standards have been established as the core for effective orientation programs in 13 different areas with associated “must” and “should” standards and guidelines. The 13 areas were: mission, program, leadership, organization and management, human resources, financial resources, facilities, technology, and equipment, legal responsibilities, equity and access, campus and external relations, diversity, ethics, and assessment and evaluation. A copy of the CAS Orientation Programs Standards and Guidelines is provided in Appendix C.

Influence on Student Success and Retention

The breadth and scope of orientation programs has created challenges in providing consistent and reliable information about the influence of such programs on student success and

retention. Pascarella, Terenzini, and Wolfe (1986) presented research that found that attending orientation had an impact on student social integration and commitment to the institution, which are two key factors in Tinto's model of student departure. The study supported institutionally sponsored student orientation programs as a potential benefit to new students as they experienced anticipatory socialization. This study also communicated that orientation programs have typically been short, one-time experiences and any potential impact on student retention has been indirect. Upcraft & Farnsworth (1984) also found orientation programs helped retain students and resulted in better academic achievement.

More recently, Rode (2004) found that the research on orientation clearly indicates that successful orientation programs have a powerful influence on first-year social and academic integration, which have a significant effect on student persistence and degree completion. King and Wessell (2004) reported that effective orientation programs positively contribute to matriculation, retention, and enrollment management for institutions. The National Survey of Student Engagement Annual Report (2005) found "students who attended orientation: were more involved in educationally enriching activities, perceived the campus environment to be more supportive, reported greater developmental gains during their first year of college, and were more satisfied with their overall college experience" (p. 15).

Summary

Since the beginning of the higher education system in the United States, concern has been expressed about retaining students to graduation. Changes in the economy and society have led to an increased emphasis on college degree completion and higher education administrators have been searching for ways to enhance their efforts to recruit and retain students (Upcraft & Farnsworth, 1984). Retention from freshman to sophomore year has become increasingly important to institutions and to the students they serve. Retention has been difficult to measure because of the complex array of variables associated with students' decisions to depart or to remain enrolled. The social and academic integration of first-year students has historically been a critical juncture in students' academic experience. Important theoretical perspectives and models have been attributed to a variety of researchers with works by Tinto (1975, 1993), Astin (1993), Bean (1980), and Bean and Eaton (2001-2003) cited as some of the most significant in explaining student retention and persistence.

Orientation programs have been used to welcome students to campuses for over a century. While the specific activities may vary from institution to institution, important common goals such as student success, academic integration, social integration, and the development of realistic and shared expectations have been cornerstones of the orientation experience. The orientation programs in the United States have served both new students and their parents and family members. Research has shown orientation programs can influence students' academic and social integration, matriculation, retention, and graduation. The ability to claim causation between orientation and any impact variable has been limited. The importance of orientation has been underscored by the indirect impact the programs have in ushering students into their new environment more aware, informed, and with affirmed expectations.

CHAPTER 3 - Methodology

This chapter describes the methodology used to conduct the research for this study. Included in this chapter are the questions for the study, the research design, data collection, the population, reliability and validity, data analysis, and protection of human rights.

Questions for the Study

The study was developed to examine the following research questions:

1. Is there a relationship between participation in Wildcat Warm-up, an optional extended orientation program offered at Kansas State University, and retention from freshman to sophomore year when compared with a matched group who did not attend the program?
2. Are there significant differences in academic performance, measured by grade point average, at the end of the first and second semesters of the freshman year between participants in Wildcat Warm-up when compared with a matched group of those who did not attend the program?
3. Are there reliable associations between students' entry characteristics (gender, ACT composite score, and residency) and freshman to sophomore retention rate when considering Wildcat Warm-up participation?

The research hypotheses were:

1. Students who did not attend Wildcat Warm-up were retained at a lower rate than the students who attended the program.
2. Students who did not attend Wildcat Warm-up had a lower grade point average after the first and second semesters of their freshman year.
3. Female students are more likely to be retained from freshman to sophomore year.
4. Students with higher ACT composite scores are more likely to be retained from freshman to sophomore year.
5. Students who are classified as Kansas residents are more likely to be retained from freshman to sophomore year.

6. The intervention, Wildcat Warm-up, had a positive impact on freshman to sophomore year retention.

Research Design

This study was an investigation of the impact of an extended orientation program on academic performance and retention. The study explored differences between students at Kansas State University who participated in the extended orientation program, Wildcat Warm-up, and those who did not attend. Academic performance was measured by grade point average at the end of the first and second semesters of the freshman year. Retention was measured by persistence to the sophomore year.

This study was quantitative in nature and sought to provide descriptive and predictability data, by comparing two groups of students using institutional data. The institutional data was a combination of student self-report information and institutionally generated student record information. The student self-report information was gathered on the application for admission, registration form for Wildcat Warm-up, and the Kansas State University scholarship application. The institutionally generated student record information consisted of grade reports from the end of each semester and enrollment information based on the 20th class day of each semester.

Variables for the Study

Tinto (1975, 1993) provided a well-known and often cited model for student departure. Tinto's model focused on the interaction between the student and the environment, specifically the academic and social systems of the institution (Braxton & Hirschy, 2005; Braxton & Lee, 2005; Braxton, Milem, Sullivan, 2000; Caison, 2004; Reason, 2003; Tinto, 1975, 1993). The researcher selected variables to address a select number of pre-entry students attributes (i.e. gender, residency, and ACT composite score).

Gender was included because of the reported difference between male and female students in retention and graduation rates. DuBrock (1999) found that female students were more likely to return for their second and fourth years of college, while male students were more likely to return for their third year of college. Astin and Oseguera (2005) reported that women are more likely to obtain a degree with higher four-year and six-year graduation rates. Four-year degree completion rates were reported as 40 percent for women and 33 percent for men. Six-year graduation rates were reported as 60 percent for women and 55 percent for men.

Residency was included because Kansas residents and out-of-state students have different tuition rates at Kansas State University. According to the Kansas State University office of admissions (2008), the 2008-2009 tuition rates were \$198.47 per credit hour for Kansas residents while out-of-state students paid \$541.95 per credit hour. The inclusion of this variable was an attempt to measure the ability to pay or the impact of finances on students' retention decisions. Nora, Barlow, and Crisp (2005) reported that tuition and the ability to pay educational expenses affected retention. The researchers found that 72.9 percent of students who paid instate tuition returned for the sophomore year while only 44.7 percent of students paying the nonresident tuition rate returned. The same study found that students who paid no tuition returned for the sophomore year at a rate of 81.7 percent.

The ACT composite score was included as a means of incorporating prior academic performance. ACT, Inc. (2006) reported the first to second year retention data for four-year public colleges by admissions selectivity. The selectivity designation was determined primarily by the average ACT score of the student body comprising the institution. As the selectivity of the institution increased, the percentage of students retained also increased. Specifically, highly selective institutions have a retention rate of nearly 93 percent where open enrollment institutions have a retention rate of nearly 67 percent.

The researcher had a strong desire to use high school grade point averages and first-generation information in the study. Unfortunately, high school grade point average was not available for a majority of the students in the study. The admissions process did not require high school transcripts if a student was admissible based on other information (i.e. ACT composite score). Additionally, first-generation status was collected for the study. The researcher elected not to use the data because of abnormalities observed between an associated variable. The researcher noticed several students had indicated they were both first-generation college students and legacy students (i.e. one or both parents had graduated from Kansas State University). After further investigation, the researcher learned that early applications for admission did not have a clear definition of the criteria for the questions and the online application for admission did not present the constructs as mutually exclusive.

The independent variables for the study were gender, ACT composite score, and residency. These three variables were provided by the institution. Gender was self-reported at the time of application for admission. Official ACT composite scores were part of the students'

admissions files. Unofficial scores were provided by secondary school personnel as part of the student's scholarship application. Student records that contained SAT scores were included as part of the study; SAT scores were converted to ACT scores using a widely-accepted conversion chart.

The dependent variables were grade point average and retention. These two measures were provided by the institution. Individual grade point averages for students in the study were collected for the fall and spring semesters of the freshman year. Grade point average was figured on a 4.0 scale. The retention value was determined by enrollment on the 20th class day of the fall semester of the sophomore year.

The intervention was participation in the extended orientation program, Wildcat Warm-up. Kansas State University implemented a new undergraduate student retention initiative in 2004. Wildcat Warm-up was established as a three-day, two-night enhanced orientation experience for new freshmen students.

Wildcat Warm-up Program Description

The primary focus of Wildcat Warm-up was to increase student retention. The program approached this goal through learning objectives centered on increasing knowledge about the campus and its programs and services available to students: creating strong connections between the participants (new students), current students, faculty, staff and alumni; and translating the values, culture, and traditions that make attendance at Kansas State University a unique and valuable undergraduate experience. The program was established in the New Student Services department with the Assistant Dean of Student Life/Coordinator of New Student Services directing the work of the four student directors and 20 student counselors.

The main themes for the content of Wildcat Warm-up remained constant since 2004. A campus planning committee was convened in spring 2004 to outline the learning objectives for the program. The committee determined the following should be addressed through various programming mediums: campus values, cultures, and traditions; relationship building between the freshman participants, current K-State students, faculty/staff, and alumni; campus-wide philanthropic efforts; healthy relationships and sexual assault prevention; diversity; and student academic success strategies.

Wildcat Warm-up has hosted 872 new students in the first four years of the program. Participants have been a representative mix of in-state and out-of-state students, students from small towns and large towns, and students from a variety of racial and ethnic backgrounds. The student participants in each year's Wildcat Warm-up cohort have been viewed as a small group that will be a catalyst in developing their peers by serving as leaders for their class and the campus community; transferring the values, culture, and traditions of the campus; and utilizing and sharing information critical to student retention. The program staff and administrators have promoted the idea to participants and other constituents that Wildcat Warm-up participants influence their peers and help promote and provide opportunities for shared success.

Wildcat Warm-up has been funded by three sources: Student-Centered Tuition Enhancement funds, student participant fees (registration of approximately \$150 per person), and sponsorship (both cash donations and in-kind contributions). The Student-Centered Tuition Enhancement funds have been allocated on an annual basis by the Kansas State University Student Governing Association. Funding has been secured through a competitive proposal and presentation process and has been confirmed by the Student Governing Association by vote. Registration fees began in 2004 at \$100 and increased to the \$150 per person level for the 2008 program year. The Manhattan, Kansas community that houses the Kansas State University campus has been engaged in supporting the program since its inception. Campus and community groups have given generously of their time, monetary funds, and in-kind donations.

Data Collection

Descriptive data were collected and analyzed to describe the Wildcat Warm-up participants and the matched comparison group. Kansas State University New Student Services provided student participant names for each program year. The student data were combined using Microsoft Excel. The Kansas State University Office of Admissions provided student demographic data, including standardized test scores, gender, and residency status. The Kansas State University Educational and Personal Development Office provided the list from which students for the matched group were identified. All domestic, full-time, first-year undergraduate students enrolled at Kansas State University at the start of each fall semester (2004 to 2007) were collected. From this pool, the matched group was selected based on ACT score, gender, and residency status using a structured sampling procedure. The Educational and Personal

Development Office supplied institutional data regarding retention and grade point average. Data were entered in the Statistical Package for the Social Sciences (SPSS) for analysis.

Population

Participants selected for this study were first-year undergraduate students at Kansas State University in four entering classes from 2004 to 2007. First-year students were defined as students in their first semester at Kansas State University classified with a full-time enrollment status. International students were excluded from the study.

New Student Services provided the list of students participating in Wildcat Warm-up for each of the four years. The Kansas State University Office of Admissions provided student demographic data for the Wildcat Warm-up participants, including standardized test scores, gender, and residency status. Students who had SAT scores on file with the Office of Admissions were included; SAT scores were converted to the equivalent ACT score using a chart provided by the Office of Admissions. Students who had not provided official ACT scores were included in the study if they provided an unofficial score on the scholarship application. Students who reported no standardized test score were excluded from the study.

The Kansas State University Educational and Personal Development Office provided a list of all domestic, full-time, first-year undergraduate students enrolled in the fall semesters for 2004 to 2007. Wildcat Warm-up participants were designated as such to avoid including an attendee in the comparison group.

From each of the four lists provided by the Educational and Personal Development Office, the matched group was selected based on ACT score, gender, and residency status criteria. For each Wildcat Warm-up participant, a single comparison subject was selected that matched on each of the three criteria. All data fields not pertinent to the match were hidden from view during the matching process. Within each year, the eligible students were sorted by ACT composite, gender and residency to create strata from which students would be selected. The researcher flipped a coin to determine if the first or second student in each stratum would be selected and a pattern of every other student was established. When the researcher reached the end of a stratum and had more students to select, she returned to the top of the list and began with the next eligible student and continued to accept each eligible student until all students were

matched. Students in the Wildcat Warm-up participant group who did not have a match on all three criteria were excluded from the study.

All subjects for the study were combined in one data file. The study participants were divided into two groups – students who participated in Wildcat Warm-up and nonparticipants. Each program year's Wildcat Warm-up participants were grouped as a cohort (Group A). The comparison group (Group B) comprised the second cohort.

The study included 1668 subjects. Group A consisted of 834 students. Group B consisted of the same number of students matched by ACT score (or equivalent SAT score), gender, and residency. Of the 1668 students in the study, 946 (57%) were female and 722 (43%) were male. In addition, 1100 (66%) of the 1668 subjects were Kansas residents while 568 (34%) were out-of-state students. The ACT composite score information reflected a mean score of 24.20 ($SD = 4.22$) for Group A and a mean score of 24.19 ($SD = 4.20$) for the comparison group. The minimum ACT composite score was 12 and the maximum was 35.

Data Analysis

Quantitative data analysis methods were used in this study. Data was collected in Microsoft Excel and imported into SPSS for analysis. The participant group (Group A) and comparison group (Group B) were analyzed using descriptive statistics. The first two research questions provided a preliminary analysis of the overall impact of the Wildcat Warm-up program on the two measures identified for the study, which were freshman grade point averages and retention. The first research question and hypothesis were explored with a two-group independent samples Chi-square test with a dichotomous response variable. The second research question and hypothesis were explored with an analysis of variance (one-way ANOVA) for both first and second semester grade point averages. The third research question and remaining hypotheses were explored through a logistic regression analysis using the forward stepwise method.

Descriptive statistics were an important aspect of the study. The participant group (Group A) and the comparison group (Group B) were confirmed to be closely matched on the three independent variables. Additionally, the researcher considered data from the entire population to determine what difference (if any) existed between the participant group and the general population.

The first research question was the preliminary analysis of the impact of Wildcat Warm-up on retention. A two-group independent samples Chi-square test with a dichotomous response variable was used as the statistical measure. Each variable represented a dichotomy and created a classic 2 by 2 contingency table. The Chi-square test was used to determine if there was an association between the two variables (i.e. Wildcat Warm-up attendance and retention to sophomore year). A Cramer's V was used to determine the strength of the association between the two variables. A Pearson's bivariate correlation was conducted to further explore the association between the two variables for statistical versus practical significance. Significance level was set at the $p = 0.05$ level.

The second research question was the preliminary analysis of the impact of Wildcat Warm-up on first and second semester grade point averages. A one-way analysis of variance (ANOVA) was used for both the first and second semester grade point averages. This statistical analysis was selected because it allowed the researcher to see if there was a significant difference between the mean grade point averages of Group A and Group B for the first and second semesters. The one-way ANOVA was a suitable statistic because of the nature of the variables associated with the research question. This portion of the study focused on one independent variable (Wildcat Warm-up participation) and one dependent variable (grade point average), and the samples were independent. Significance level was set at the $p = 0.05$ level.

Logistic regression analysis using the forward stepwise method was selected for the third research question. Field (2005) described logistic regression as a means of modeling the relationship between one or more predictor variables and associated categorical outcome variables. Further, logistic regression was identified as a multiple regression. Characteristics that separated it from other multiple regression analyses as the regression of choice were an outcome variable that was dichotomous and predictor variables that were continuous or categorical. The outcome variable was retention to the sophomore year. The predictor variables were gender (categorical), residency (categorical), Wildcat Warm-up participation (categorical), and ACT composite score (continuous). An additional independent or predictor variable was added during the analysis phase. The first semester grade point average (continuous) was added to the correlation analysis.

The logistic regression analysis used the forward stepwise method. In this method, SPSS begins with a model that includes only a constant (retention) and then adds a single predictor

variable into the model at each step. The logistic regression predicted which variables would be significant in a model and carried forward only those independent variables deemed to be useful. The Hosmer and Lemeshow test was applied through SPSS to determine the degree to which the model fit the actual data for the study. Simple bivariate correlations between the predictor variables and retention were used to determine significance. Significance level was set at the $p = 0.05$ level.

Reliability and Validity

The use of institutional data for this study provided some protection from threats to the validity of research findings. The research design for this study included the collection of data long after the intervention. Study participants experienced no interaction with the researcher, thus excluding concerns about interaction effects between the participants and the researcher (i.e. experimenter expectancy effects). Participants were not subjected to observation or data collection in a research setting, thus excluding concerns about demand characteristics or interaction effects from the research setting. Participants did not experience a pre-test and post-test design, nor did they have multiple treatments related to this study, thus excluding concerns about practice effect or carryover effects.

The opportunity for threats to validity of the research findings does exist around the retention variable. While the researcher could determine whether or not a student was enrolled on the 20th enrollment day of the fall semester of the sophomore year, she was not able to determine an exact date of departure for students no longer enrolled. In some cases, a student may have left the institution in the first days of the semester, while others may have left following the conclusion of the semester, and yet others may have left at a number of points in the middle of the semester. Additionally, information was not available as to the reason a student left the institution. Some reasons include: required absence because of disciplinary or academic reasons or departure due to the student's personal choice. Exit survey data was not available to further explain the retention variable.

The dependent variables, grade point average at the end of the first and second semesters, presented opportunity for threats to the validity of the research findings because multiple faculty members provided assessment of academic performance. The standards and approach to rating student performance could have varied greatly between faculty members. Further, students

traditionally have enrolled in different courses with differing levels of difficulty. Students across the study could have experienced course loads varying greatly in terms of the level of difficulty. Students also could have presented varying student life experiences that impacted their integration to the campus community. Involvement in living groups, student organizations, clubs, athletic teams, and other institutionally sponsored opportunities could have enhanced or detracted from the college experience in total. Part-time or full-time work could have also impacted time available to study or connect to the campus community.

Pascarella, Terenzini, and Wolfe (1986) presented research that stated orientation programs have typically been short, one-time experiences and any potential impact on student retention has been indirect. The research design presented opportunities for additional threats to validity because of the passage of time between the end of the orientation program and the point from which the data elements were collected. On average, 28 weeks separated the end of the extended orientation program and the end of the first semester and an additional 24 weeks separated the end of the second semester of the freshman year. Nearly 75 weeks separated the end of Wildcat Warm-up and the 20th enrollment day of the sophomore year, which was the date at which retention was determined. Internal validity was threatened by history, maturation, fatigue, and other aspects related to the passage of time.

The ACT standardized test for college admission was an independent variable in this study. In addition, a small number of participants reported SAT scores that were converted to an ACT composite score equivalent. These two exams have been consistently regarded as valid and reliable measures to assist in college admission, course placement, and college success predictions. According to ACT, Inc. (2007), aspects of the test development and implementation process have enhanced the reliability and validity of the assessment. The test development procedures have been structured and have included an extensive review process “with each item being critically examined at least sixteen times” (p. 62). The test content has been determined to be representative of the curricula at the secondary and post-secondary level. Each test form has been reviewed before use, and content validity has been continually assessed. The very nature of the standardized assessment with consistency across testing dates, forms, and meaning for most students, has supported the validity of the ACT.

Protection of Human Rights

The appropriate forms were submitted to the Committee for Research Involving Human Subjects Institutional Review Board (IRB) at Kansas State University in May 2008. Before submitting the forms to IRB, the researcher completed the training modules provided by the Office of Research Compliance at Kansas State University. The researcher was notified that all six modules were successfully completed before seeking approval from IRB. The IRB reviewed the proposal and determined it to be exempt from further review.

The research design focused on the analysis of institutional data. Data was secured during the collection and analysis phase. Student identifying information, including name and student identification numbers, was removed from the data file following the final request for institutional data. In order to maintain confidentiality and facilitate a connection between matched students, each individual was assigned a unique number and each matched pair was assigned a shared number.

Following the analysis of the data, all identifying information was removed from the study and the analysis was reported in the aggregate. Individual students and their corresponding information were not identified.

CHAPTER 4 - Data Results and Analysis

This study was an investigation of the impact of an extended orientation program on academic performance and retention. The study sought to quantify differences between students at Kansas State University who participated in the extended orientation program and those who did not attend. Chapter four presents the results and data analysis for this study. This chapter includes a description of the sample, analysis of the descriptive statistics for the Wildcat Warm-up participants and comparison group, and an analysis of the hypothesis testing for each of the three hypotheses of the study.

Description of the Sample

Participants selected for this study were first-year undergraduate students at Kansas State University in four entering classes from 2004 to 2007. First-year students were defined as students in their first semester at Kansas State University classified with a full-time enrollment status. International students were excluded from the study.

Students who participated in Wildcat Warm-up during program years 2004 to 2007 were combined in a cohort (Group A). A matched group (Group B) was selected from all domestic, full-time, first-year undergraduate students enrolled in the fall semesters for 2004 to 2007. The matched group was selected based on ACT score, gender, and residency status criteria.

The study included 1668 subjects. Group A consisted of 834 students. Group B consisted of the same number of students matched by gender, residency, and ACT score or equivalent SAT score.

Descriptive Statistics

This study sought to quantify differences between students at Kansas State University who participated in the extended orientation program and those who did not attend. The researcher sought to create a comparison group matched on the pre-entry attributes of gender, residence, and ACT composite score. In addition, the degree to which the students included in the study reflected the overall population of undergraduate students at the institution was also of interest. Table 4.1 presents the gender distribution of the study participants.

Table 4.1 Study Participants by Gender

	Group A <i>Wildcat Warm-up</i> <i>Participants</i>		Group B <i>Non-participants</i>	
	Number	Percentage	Number	Percentage
Female	473	56.7%	473	56.7%
Male	361	43.3%	361	43.3%
Total	834	100.0%	834	100.0%

The study included 112 more female participants than male participants. The inclusion of more females than males was a reflection of the tendency for females to participate in the extended orientation program at a higher rate than male students. The rate of female to male participation differs from the gender distribution of the general undergraduate population at the institution. In fall 2007, the institution consisted of 8,973 (48.4%) female undergraduate students and 9,572 (51.6%) male undergraduate students (Kansas State University Office of Planning and Analysis, 2007).

The independent variable *residency status* was explored for the students included in the study. The study focused on domestic, first-year, full-time undergraduate students. Table 4.2 presents the residency status distribution of the study participants.

Table 4.2 Study Participants by Residency Status

	Group A		Group B	
	Number	Percentage	Number	Percentage
Kansas Resident	549	65.8%	551	66.1%
Out-of-State	285	34.2%	283	33.9%
Total	834	100.0%	834	100.0%

More students classified as Kansas residents participated in the extended orientation program. The rate of Kansas residents' participation to out-of-state students' participation differed from the overall institutional enrollment. In fall 2007, the undergraduate population at the institution consisted of 15,687 (84.6%) students classified as Kansas residents and 2,858

(15.4%) out-of-state students (Kansas State University Office of Planning and Analysis, 2007). Out-of-state students tended to participate in the extended orientation at a higher rate over their Kansas resident peers.

The researcher was concerned about the imbalance of Group A and Group B across the residency category. After additional research and consultation with office of admissions staff, it was determined that the imbalance could be attributed to students who were initially classified as out-of-state, but listed a Kansas permanent address to begin the process of establishing Kansas residency. The researcher elected to leave the participants in the study.

The ACT composite or converted SAT score was collected for each participant in the study. This information was compiled for initial comparison of Group A and Group B. Table 4.3 presents the ACT composite information for the study participants.

Table 4.3 ACT Composite Information for Study Participants

	<i>Group A</i>	<i>Group B</i>	<i>Group Total</i>
Number of records	834	834	1668
Mean	24.19	24.20	24.20
Median	24	24	24
Minimum	12	12	12
Maximum	35	35	35
Percentile 25	21	21	21
Percentile 75	27	27	27
Range	23	23	23
Standard Deviation	4.20	4.22	4.21

The comparison of *ACT composite score* information for the Wildcat Warm-up group and the comparison group showed a valid comparison group was selected. The mean *ACT composite scores* of 24.19 ($SD = 4.20$) and 24.20 ($SD = 4.22$) for Groups A and B respectively reflected appropriate matches were made during the selection of study participants. The minimum *ACT composite score* of 12 and the maximum *ACT composite score* of 35 showed a wide distribution of prior academic performance. During the selection of the matched group, the researcher excluded four Wildcat Warm-up participants from the study because a suitable match was not

found for all three matching criteria. These students presented ACT composite scores at the ends of the ACT composite score continuum.

In fall 2007, the freshman, full-time, undergraduate population at the institution had a mean *ACT composite score* of 23.8 (Kansas State University Office of Planning and Analysis, 2007). Participants in this study presented a slightly higher mean ACT composite score of 24.20.

Race/ethnicity data was made available to the researcher. While it was not included in the extensive analysis, the information was used to learn more about the study participants.

Table 4.4 presents the race/ethnicity information for the study participants.

Table 4.4 Race/Ethnicity Information for Study Participants

	<i>Group A</i>		<i>Group B</i>	
	Number	Percentage	Number	Percentage
American Indian	7	0.84%	4	0.48%
Asian	12	1.44%	9	1.08%
Black	39	4.68%	38	4.56%
Hispanic	7	0.84%	7	0.84%
Mexican-American	20	2.40%	15	1.80%
Multiracial	10	1.20%	16	1.92%
Not specified	5	0.60%	5	0.60%
Prefer not to respond	12	1.44%	18	2.16%
White	722	86.57%	722	86.57%

The study included an overwhelming majority of White students. The distribution of students across race/ethnicity categories closely paralleled that of the institution. In 2007, the total undergraduate population at Kansas State University included 113 (0.6%) American Indian students, 253 (1.4%) Asian students, 554 (3.0%) Hispanic students, 610 (3.3%) Black students, 688 (3.7%) Multi-racial students/unknown racial/ethnic information, and 15,896 (85.7%) White students (Kansas State University Office of Planning and Analysis, 2007). Table 4.4 presents the Hispanic and Mexican American designations as two separate fields while the total university data combined the two categories into one category, Hispanic.

The study included the first semester grade point average. This information was collected at the end of the fall semester of the freshman year for each participant in the study. Grade point average was measured on a 4.0 scale. Table 4.5 presents the first semester grade point average for all study participants.

Table 4.5 First Semester Grade Point Average for Study Participants

	<i>Group A</i>	<i>Group B</i>	<i>Group Total</i>
Number of records	828	834	1662
Mean	2.83	2.74	2.78
Median	3.067	3.000	3.000
Minimum	.000	.000	.000
Maximum	4.000	4.000	4.000
Percentile 25	2.357	2.167	2.263
Percentile 75	3.500	3.535	3.533
Range	4.000	4.000	4.000
Standard Deviation	.93	1.03	.98

The examination of the *first semester grade point average* for the study provided a preliminary analysis for the research questions of the study. This comparison revealed that Group A had 828 records while Group B had 834 records. Both groups A and B had 834 records at the start of the study. The researcher accounted for the attrition from Group A in that the origin of Group A participants was Wildcat Warm-up registration lists. The researcher did not exclude any students from Group A who chose not to attend Kansas State University before classes began or left the campus before the 20th enrollment day of their first semester. Group B was selected from students enrolled at the institution after the 20th enrollment day; therefore every participant in Group B would have a grade point average recorded.

Group A presented a mean *first semester grade point average* of 2.83 ($SD = .93$) and Group B presented a mean *first semester grade point average* of 2.74 ($SD = 1.03$). Both groups had participants that spanned the range of the grade point scale with .00 as the minimum and 4.00 as the maximum grade point averages.

The study also included the *second semester grade point average*. This information was collected at the end of the spring semester of the freshman year for each participant in the study. Grade point average was measured on the 4.0 scale. Table 4.6 presents the *second semester grade point average* for all study participants.

Table 4.6 Second Semester Grade Point Average for Study Participants

	<i>Group A</i>	<i>Group B</i>	<i>Group Total</i>
Number of records	777	752	1529
Mean	2.72	2.78	2.75
Median	2.917	3.000	2.933
Minimum	.000	.000	.000
Maximum	4.000	4.000	4.000
Percentile 25	2.214	2.250	2.233
Percentile 75	3.486	3.532	3.500
Range	4.000	4.000	4.000
Standard Deviation	.97	.95	.96

The examination of the *second semester grade point average* for the study provided continued preliminary analysis for the research questions of the study. This comparison revealed that Group A had 777 records while Group B had 752 records for a total of 1,529 records. Of the 139 students lost to the study due to attrition, 57 were from Group A and 82 were from Group B.

The *second semester grade point average* analysis showed that Group A had a mean grade point average of 2.72 ($SD = .97$) and Group B had a mean grade point average of 2.78 ($SD = .95$). Any gains made by Group A in the fall semester of their freshman year seem to have been lost during the spring semester. The minimum grade point average remained at .00 and the maximum grade point average remained at 4.00.

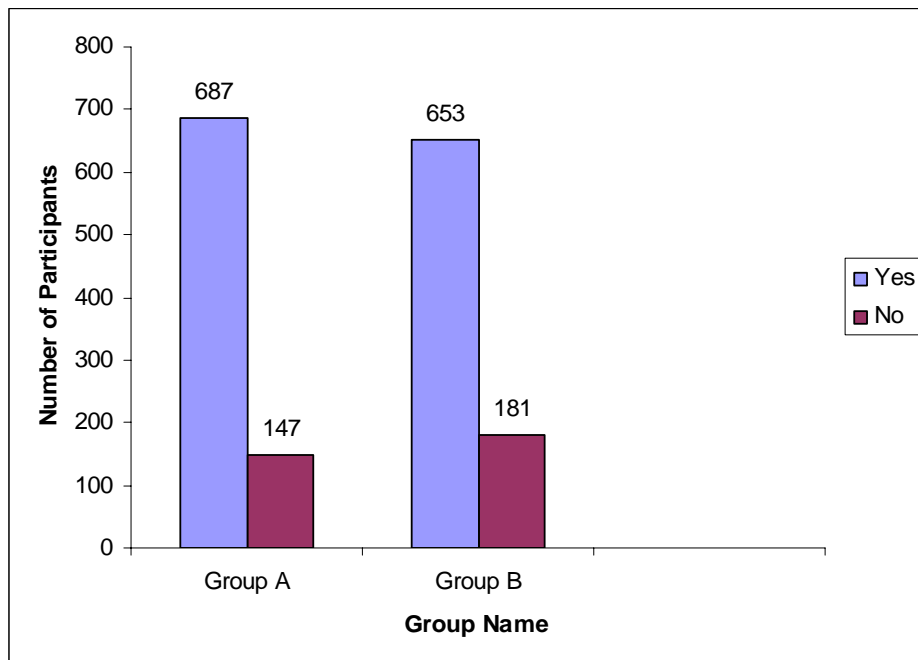
The study included data on the *retention of students from freshman to sophomore year*. *Retention to sophomore year* was determined by enrollment at K-State on the 20th enrollment day of the sophomore year. Table 4.7 presents the *freshman to sophomore year retention* information for study participants.

Table 4.7 Freshman to Sophomore Year Retention Information for Study Participants

	<i>Group A</i>		<i>Group B</i>		<i>Total</i>	
	Number	Percentage	Number	Percentage	Number	Percentage
Yes	687	82.4%	653	78.3%	1340	80.3%
No	147	17.6%	181	21.7%	328	19.7%
Total	834	100%	834	100%	1168	100%

The examination of the *freshman to sophomore year retention* information provided continued preliminary analysis for the research questions of the study. This comparison revealed that Group A had a *retention rate* of 82.4 percent, while Group B had a *retention rate* of 78.3 percent, and all participants combined were retained at a rate of 80.3 percent. Figure 4.1 shows the *freshman to sophomore retention rates* for the study.

Figure 4.1 Freshman to Sophomore Retention Rates Chart



Analysis of Hypotheses Testing

The study was developed to examine the following research questions:

1. Is there a relationship between participation in Wildcat Warm-up, an optional extended orientation program offered at Kansas State University, and retention from freshman to sophomore year when compared with a matched group who did not attend the program?
2. Are there significant differences in academic performance, measured by grade point average, at the end of the first and second semesters of the freshman year between participants in Wildcat Warm-up when compared with a matched group of those who did not attend the program?
3. Are there reliable associations between students' entry characteristics (gender, ACT composite score, and residency) and freshman to sophomore retention rate when considering Wildcat Warm-up participation?

The research hypotheses were:

1. Students who did not attend Wildcat Warm-up were retained at a lower rate than the students who attended the program.
2. Students who did not attend Wildcat Warm-up had a lower grade point average after the first and second semesters of their freshman year.
3. Female students are more likely to be retained from freshman to sophomore year.
4. Students with higher ACT composite scores are more likely to be retained from freshman to sophomore year.
5. Students who are classified as Kansas residents are more likely to be retained from freshman to sophomore year.
6. The intervention, Wildcat Warm-up, had a positive impact on freshman to sophomore year retention.

Research Hypothesis One

The following research hypothesis was examined:

- Students who did not attend Wildcat Warm-up were retained at a lower rate than the students who attended the program.

In order to answer the question, "Is there a relationship between participation in Wildcat Warm-up, an optional extended orientation program offered at Kansas State University, and

retention from freshman to sophomore year when compared with a matched group who did not attend the program?” a two-group independent samples Chi-square test with a dichotomous response variable was computed. Each variable represented a dichotomy and created a classic 2 by 2 contingency table. The Chi-square test was used to determine if there was an association (or independence) between the two variables (i.e. Wildcat Warm-up participation and retention to sophomore year).

Of the 1668 participants in the study, 834 attended Wildcat Warm-up (Group A) and 834 were part of a matched group (Group B). Matching criteria was gender, residency, and ACT composite score. The 834 participants in Group A were retained at a rate of 82.4% ($n = 687$). Group B participants were retained at a rate of 78.3% ($n = 653$). Chi-square analysis of this distribution indicated a relationship or dependency ($\chi^2[df = 1] = 4.387, p < 0.05$). Table 4.8 presents the results of the Chi-square tests.

Table 4.8 Chi-Square Tests

	<i>Value</i>	<i>df</i>	<i>Asymp. Sig. (2-sided)</i>	<i>Exact Sig. (2-sided)</i>	<i>Exact Sig. (1-sided)</i>
Pearson Chi-Square	4.387	1	.036		
Continuity Correction	4.133	1	.042		
Likelihood Ratio	4.394	1	.036		
Fisher’s Exact Test				.042	.021
Linear-by-Linear Association					
N of Valid Cases	1668				

The Pearson Chi-square test showed a relationship or dependence. A Phi or Cramer’s V was used to determine the strength of the association between the two variables. Significance level was set at the $p = 0.05$ level. A small Cramer’s V (0.051) was found, therefore, only a weak association between Wildcat Warm-up attendance and retention can be concluded. Table 4.9 presents the results of the Phi statistic and Cramer’s V measures.

Table 4.9 Phi and Cramer's V Measures

		<i>Value</i>	<i>Asymp. Std. Error^a</i>	<i>Approx. T^b</i>	<i>Approx. Sig.</i>
Nominal by	Phi	.051			.036
Nominal	Cramer's V	.051			.036
N of Valid Cases		1668			

To further explore the significance of the relationship between Wildcat Warm-up attendance and retention, a Person bivariate correlation was conducted on the two variables. Significance level was set at the $p = 0.05$ level. Although a significant Cramer's V was found, the researcher sought to further explore the association between the variables in an effort to determine practical versus statistical significance. The Pearson product-moment correlation coefficient ($r = .051$) was employed for correlation analysis. The coefficient of determination ($r^2 = 0.0026$) was used to measure the amount of variability in the data explained by the model or how well the regression fit the data. Ultimately, less than 1% of the variability in the outcome (retention) could be accounted for by Wildcat Warm-up attendance. Table 4.10 presents the Pearson product-moment correlations.

Table 4.10 Pearson Product-Moment Correlations

		<i>Wildcat Warm-up Participation</i>	<i>Retention</i>
Wildcat Warm-up Participation Retention	Pearson Correlation	1	.051*
	Sig. (2-tailed)		.036
	N	1668	1668
	Pearson Correlation	.051*	1
	Sig. (2-tailed)	.036	
	N	1668	1668

* Correlation is significant at the 0.05 level (2-tailed).

The result of the analysis of hypothesis one was Wildcat Warm-up participants were retained from freshman to sophomore year at a higher rate over their peers who did not attend. However, the significant but small Cramer's V of 0.051 and r^2 value of 0.0026 led the researcher to determine differences in retention from freshman to sophomore year existed between Group A

and Group B, but the differences could not statistically be attributed to Wildcat Warm-up participation.

Research Hypothesis Two

The following research hypothesis was examined:

- Students who did not attend Wildcat Warm-up had a lower grade point average after the first and second semesters of their freshman year.

In order to answer the question, “Are there significant differences in academic performance, measured by grade point average, at the end of the first and second semesters of the freshman year between participants in Wildcat Warm-up when compared with a matched group of those who did not attend the program?” a one-way analysis of variance (ANOVA) was utilized. The ANOVA was conducted using grade point average as the dependent variable and Wildcat Warm-up participation as the independent variable.

The first part of the question related to the end of the first semester grade point average. Before conducting the ANOVA, the Lavene’s test of homogeneity of error variances was used to test that the variances of Group A and Group B were equal, a desired trait. Lavene’s test of homogeneity of error variances ($F(1, 1660) = 10.096, p < .05$) was conducted and found to be significant, indicating unequal variances. The researcher attributed this finding to the large sample size and modified procedures were used with this regression that do not assume equality of variance. The ANOVA indicated that there were significant differences in end of first semester grade point average between Group A and Group B, ($F(1, 1661) = 3.593, p = 0.58$) but only on a 10 percent significance level. Additionally, a coefficient of determination ($r^2 = 0.002$) was examined to measure the amount of variability in the data explained by the model. The low r^2 value revealed that the two groups have a great deal of overlap and less than 1 percent of variability in first semester grade point average can be accounted for when considering program participation. Table 4.11 presents the descriptive statistics for the end of the first semester grade point averages for Group A and Group B. Table 4.12 presents the Levene’s Test of Equality of Error Variances. Table 4.13 presents ANOVA results of end of first semester grade point average and Wildcat Warm-up participation.

Table 4.11 Descriptive Statistics: End of First Semester Grade Point Average

<i>Program Participation</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>N</i>
Group A	2.82635	.930075	828
Group B	2.73510	1.029659	834
Total	2.78056	.982077	1662

Dependent variable: GPA at end of first semester

Table 4.12 Levene's Test of Equality of Error Variances

<i>F</i>	<i>df1</i>	<i>df2</i>	<i>Sig.</i>
10.096	1	1660	.002

Dependent variable: GPA at end of first semester

Table 4.13 ANOVA Results for End of First Semester Grade Point Average

<i>Source</i>	<i>Type III Sum of Squares</i>	<i>df</i>	<i>Mean of Square</i>	<i>F</i>	<i>Sig.</i>	<i>Partial Eta Squared</i>	<i>Observed Power^a</i>
Corrected Model	3.460 ^b	1	3.460	3.593	.058	.002	.474
Intercept	12851.149	1	12851.149	13345.305	.000	.889	1.000
Wildcat Warm-up Participation	3.460	1	3.460	3.593	.058	.002	.474
Error	1598.533	1660	.963				
Total	14451.787	1662					
Corrected Total	1601.992	1661					

a. Computed using alpha = .05

$r^2 = .002$ (Adjusted $r^2 = .002$)

The second part of the question related to the end of the second semester grade point average. Before conducting the ANOVA, the Lavene's test of homogeneity of error variances was used to test that variances of Group A and Group B were equal, a desired trait. Lavene's test ($F(1, 1527) = .126, p > .05$) was conducted and found to not be significant, indicating equal variances. The ANOVA indicated that there were no significant differences in end of second semester grade point average between Group A and Group B, ($F(1, 1528) = 1.613, p = 0.204$). Additionally, a coefficient of determination ($r^2 = 0.001$) was examined to measure the amount of variability in the data explained by the model. The low r^2 value revealed that the two groups have a great deal of overlap and less than 1 percent of variability in second semester grade point

average can be accounted for when considering program participation. Table 4.14 presents the descriptive statistics for the end of the second semester grade point averages for Group A and Group B. Table 4.15 presents the Levene's Test of Equality of Error Variances. Table 4.16 presents ANOVA results of end of second semester grade point average and Wildcat Warm-up participation.

Table 4.14 Descriptive Statistics: End of Second Semester Grade Point Average

<i>Program Participation</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>N</i>
Group A	2.71922	.967519	752
Group B	2.78141	.946468	777
Total	2.74981	.957416	1529

Dependent variable: GPA at end of second semester

Table 4.15 Levene's Test of Equality of Error Variances

<i>F</i>	<i>df1</i>	<i>df2</i>	<i>Sig.</i>
.126	1	1527	.722

Dependent variable: GPA at end of second semester

Table 4.16 ANOVA Results for End of Second Semester Grade Point Average

<i>Source</i>	<i>Type III Sum of Squares</i>	<i>df</i>	<i>Mean of Square</i>	<i>F</i>	<i>Sig.</i>	<i>Partial Eta Squared</i>	<i>Observed Power^a</i>
Corrected Model	1.478 ^b	1	1.478	1.613	.204	.001	.246
Intercept	11562.630	1	11562.630	12619.128	.000	.892	1.000
Wildcat Warm-up Participation	1.478	1	1.478	1.613	.204	.001	.246
Error	1399.157	1527	.916				
Total	12962.080	1529					
Corrected Total	1400.635	1528					

b. Computed using alpha = .05

c. $r^2 = .001$ (Adjusted $r^2 = .000$)

The results of the analysis of hypothesis two were that there were no significant differences in the first or second semester grade point averages between students who attended Wildcat Warm-up and those who did not attend. While the ANOVA conducted for the end of

the first semester grade point average found a significant difference between Groups A and B at a 10 percent significance level, further analysis to establish the statistical versus practical significance of the findings led to less than 1 percent of variability in grade point average being accounted for when considering Wildcat Warm-up participation.

Research Hypotheses Three through Six

The following research hypotheses were examined:

- Female students are more likely to be retained from freshman to sophomore year.
- Students with higher ACT composite scores are more likely to be retained from freshman to sophomore year.
- Students who are classified as Kansas residents are more likely to be retained from freshman to sophomore year.
- The intervention, Wildcat Warm-up, had a positive impact on freshman to sophomore year retention.

In order to answer the question, “Are there reliable associations between students’ entry characteristics (gender, ACT composite score, and residency) and freshman to sophomore retention rate when considering Wildcat Warm-up participation?” a logistic regression analysis using the forward stepwise method was selected. The predictor variables were gender (categorical), residency (categorical), Wildcat Warm-up participation (categorical), and ACT composite score (continuous). An additional predictor variable, first semester grade point average (continuous), was considered during the analysis of correlations. Significance level was set at the $p = 0.05$ level.

Block 0: Beginning Block

The logistic regression analysis included 1668 participants evenly distributed between Group A ($n = 834$) and Group B ($n = 834$). The predicted value was identified as retention from freshman to sophomore year. This value was determined by SPSS through a formula designed to find the variable that would be the best fit to use for predictive purposes. The program predicted that all of the 1668 participants in the study would be retained and then the actual data was tested. When only including the intercept and no other predictor variables, the percentage of accuracy in predicting retention from freshman to sophomore year was 80.3. Table 4.17 presents

the categorical variables for the logistic regression. Table 4.18 presents the beginning block percentage of accuracy findings.

Table 4.17 Categorical Variables for the Logistic Regression

		<i>Frequency</i>	<i>Parameter Coding</i> (1)
Wildcat Warm-up Participation	Group A	834	1.000
	Group B	834	.000
Residency	Kansas resident	1100	1.000
	Out-of-state	568	.000
Gender	Male	722	.000
	Female	946	1.000

Table 4.18 Beginning Block: Percentage of Accuracy

<i>Observed</i>			<i>Predicted</i>		
			Retained to Sophomore Year		Percentage Correct
			No	Yes	
Step 0	Retained to	No	0	328	.0
	Sophomore Year	Yes	0	1340	100.0
	Overall Percentage				80.3

The remaining variables outlined in the study were analyzed to predict which variables would be significant in a model. The significance level for ACT composite score ($p = .000$), gender ($p = 0.009$), and Wildcat Warm-up participation ($p = 0.036$) were all less than 0.05 and were determined to be significant in predicting retention. Residency ($p = 0.084$) was determined to not be significant in predicting retention at the 5 percent significance level and was not carried forward in the model. Table 4.19 presents the initial test of the predictor variables in the study.

Table 4.19 Beginning Block: Variables not in the Equation

			<i>Score</i>	<i>df</i>	<i>Sig.</i>
Step 0	Variables	ACT composite	64.510	1	.000
		Gender	6.833	1	.009
		Residency	2.992	1	.084
		Wildcat Warm-up Participation	4.387	1	.036
	Overall Percentage		80.999	4	.000

Block 1: Forward Stepwise

The logistic regression analysis generated three models using the stepwise approach. The Chi-square values for each of the three models were significant ($p < .05$) for both the incremental change as well as the overall model. At this step, the researcher predicted that the final model would include three variables: ACT composite score, gender, and Wildcat Warm-up participation. Table 4.20 presents the Omnibus Tests of Model Coefficients for each of three steps models.

Table 4.20 Omnibus Tests of Model Coefficients

		<i>Chi-square</i>	<i>df</i>	<i>Sig.</i>
Step 1	Step	66.328	1	.000
	Block	66.328	1	.000
	Model	66.328	1	.000
Step 2	Step	10.518	1	.001
	Block	76.846	2	.000
	Model	76.846	2	.000
Step 3	Step	4.562	1	.033
	Block	81.409	3	.000
	Model	81.409	3	.000

The Hosmer and Lemeshow test was applied through SPSS to determine the degree to which the model fit the actual data for the study. The constructed model was compared to data in the study. A high significance level was desired and realized ($p = .721$) indicating the model with three predictor variables fits the data well. Table 4.21 presents the Hosmer and Lemeshow Test findings.

Table 4.21 Hosmer and Lemeshow Test

<i>Step</i>	<i>Chi-square</i>	<i>df</i>	<i>Sig.</i>
1	5.470	8	.706
2	4.545	8	.805
3	5.338	8	.721

Additional analysis provided a comparison of the percentage of accuracies between the full model, that incorporated all of the predictor variables, and the null model, that included only the intercept, determined in the beginning block. The full model presented an 80.5 percent

accuracy of prediction for a slight improvement over the null model 80.3 percent accuracy of prediction. Table 4.22 presents the percentage of accuracy for the full model.

Table 4.22 Full Model: Percentage of Accuracy

<i>Observed</i>			<i>Predicted</i>		
			Retained to Sophomore Year		Percentage Correct
			No	Yes	
Step 1	Retained to	No	1	327	.3
	Sophomore Year	Yes	1	1339	99.9
	Overall Percentage				80.3
Step 2	Retained to	No	0	328	.0
	Sophomore Year	Yes	0	1340	100.0
	Overall Percentage				80.3
Step 3	Retained to	No	3	325	.9
	Sophomore Year	Yes	1	1339	99.9
	Overall Percentage				80.5

The logistic regression analysis provided additional predictability data related to the variables in the model. It was this data that directly addressed hypotheses three through six. The data included exponentiated betas or $\text{Exp}(B)$ values that presented odds ratios. If $\text{Exp}(B)$ was above 1.0 and the $p = 0.05$ confidence level did not include 1.0, the researcher could conclude that for every one unit of change in the predictor variable, a corresponding positive amount of change occurred in the outcome variable. Considering the full model (Step 3) and the 95% confidence intervals for $\text{Exp}(B)$, the researcher determined the odds of retaining students based on the predictor variables.

Holding gender and Wildcat Warm-up participation at a fixed value, there was a 13.7% increase in the odds of retaining a student from freshman to sophomore year for every one point increase in the ACT composite score. Holding ACT composite score and Wildcat Warm-up participation at fixed values, the odds of a female student being retained from freshman to sophomore year was 51% higher than for males. Holding ACT composite score and gender at fixed values, the odds of a Wildcat Warm-up participant being retained to sophomore year was 31% higher than for a non-participant. Table 4.23 presents the odds ratio determination for the full model.

Table 4.23 Full Model: Odds Ratio Determination

		<i>B</i>	<i>S.E.</i>	<i>Wald</i>	<i>df</i>	<i>Sig.</i>	<i>Exp(B)</i>	<i>95.0% C.I. for EXP(B)</i>	
								Lower	Upper
Step 3	ACT	.129	.016	65.212	1	.000	1.137	1.102	1.173
	Composite								
	Gender	.413	.127	10.535	1	.001	1.511	1.178	1.938
	Wildcat	.270	.127	4.542	1	.033	1.310	1.022	1.680
	Warm-up								
	Participation								
	Constant	-1.974	.389	25.779	1	.000	.139		

Simple bivariate correlations between four predictor variables and retention provided r^2 values, used to measure the amount of variability in the data explained by the model. Wildcat Warm-up attendance ($r = 0.051$, $r^2 = 0.0026$), residency ($r = 0.042$, $r^2 = 0.001764$), and gender ($r = -0.064$, $r^2 = 0.0026$) all accounted for less than 1 percent of variability in retaining a student from freshman to sophomore year. ACT composite score ($r = 0.197$, $r^2 = 0.038809$) had the strongest correlation and largest r^2 . The correlation was still relatively small, explaining only 4 percent of the variability in retention from freshman to sophomore year.

The researcher elected to also examine the bivariate correlation between *first semester grade point average* and *retention*. The Pearson r was found ($r = 0.519$, $r^2 = 0.269361$), indicating nearly 27 percent of the variability in retention from freshman to sophomore year was associated with end of first semester grade point average.

The logistic regression analysis provided predictability data related to variables outlined in the study. The researcher identified odds ratios that allowed for the prediction of the likelihood of retaining students based on the predictor variables. Early in the analysis, it was determined that residency was not significant in predicting retention from freshman to sophomore year. This finding was inconsistent with hypothesis five.

Hypothesis three was supported by the finding that when all other variables remain constant, the odds of a female student being retained from freshman to sophomore year were 51 percent higher than males. Hypothesis four was supported by the finding that when all other variables remain constant, there was a 13.7 percent increase in the odds of retaining a student from freshman to sophomore year for every one point increase in the ACT composite score. Hypothesis six was supported by the finding that when all other variables remain constant, the

odds of a Wildcat Warm-up participant being retained from freshman to sophomore year were 31 percent higher than for a non-participant.

The analysis did find statistical significance for the variables ACT composite score, gender, and Wildcat Warm-up participation. Again, while the researcher found statistical significance, practical significance considerations did not allow much, if any, of the variance to be attributed to Wildcat Warm-up participation. Wildcat Warm-up participation, residency, and gender all accounted for less than 1 percent of variability in retaining a student from freshman to sophomore year. ACT composite score ($r = 0.197$, $r^2 = 0.038809$) and first semester grade point average ($r = 0.519$, $r^2 = 0.269361$) could be associated with 4 percent and 27 percent, respectively, of the variability in retention from freshman to sophomore year.

Summary of Results

This study found there was a relationship between retention from freshman to sophomore year and Wildcat Warm-up participation. The strength of the association was weak, but significant. When the amount of variability in the data explained by the model was tested, Wildcat Warm-up participation was found to account for less than 1 percent of the variance. The relationship presented statistical, but not practical significance.

In addition, the study found significant differences at the 10 percent significance level between first semester grade point averages for students who participated in Wildcat Warm-up and those who did not. While this statistically significant difference existed, less than 1 percent of the variance was attributed to participation in Wildcat Warm-up. When comparing second semester grade point averages, no significant differences existed.

Residency status had no statistically significant impact on retention from freshman to sophomore year. The logistic regression analysis allowed for the creation of odds ratios for the predictor variables of the study. Ultimately, bivariate correlations between five predictor variables and retention from freshman to sophomore year showed little correlation between Wildcat Warm-up attendance, residency, and gender when considering retention. ACT composite score accounted for 4 percent of the variability in retention from freshman to sophomore year and first semester grade point average accounted for nearly 27 percent of the variability in retention from freshman to sophomore year.

Discussion

The underlying assumption for the six hypotheses in this study was that the intervention, attendance at Wildcat Warm-up, would have a greater significance on retention from freshman to sophomore year and freshman year grade point averages. Based on the study findings, there were some statically significant relationships between Wildcat Warm-up attendance and the dependent variables. However, there was little practical significance that could be attributed to Wildcat Warm-up attendance.

In this study Wildcat Warm-up participants were retained to sophomore year at a higher rate (82.4%) than the comparison group (78.3%). While the study found there was a relationship between retention from freshman to sophomore year and Wildcat Warm-up participation, the strength of the association was weak, but significant. When the amount of variability in the data explained by the model was tested for practical significance, Wildcat Warm-up participation was found to account for less than 1 percent of the variance. This finding was consistent with most research on orientation programs. Few programs have been able to establish significant relationships between orientation program attendance and retention. Factors cited for consideration have included the duration of the intervention, typically a one-time event, and the passage of time between the intervention and measurement, during which countless other events impact students (Pascarella, Terenzini, and Wolfe, 1986).

The first to second year retention rates for four-year public colleges identified as selective was 81.7 percent (ACT National Collegiate Retention and Persistence to Degree Rates, 2006). Kansas State University reported retention rates of 81 percent, 79.09 percent, and 79.01 percent in years 2004, 2005, and 2006 respectively (Kansas State University Planning and Analysis, 2007). This study found that Group A had a *retention rate* of 82.4 percent while Group B had a *retention rate* of 78.3 percent. Group A, consisting of Wildcat Warm-up participants, presented a retention rate higher than the national average, while the matched group presented a retention rate below the national average and even below the 2006 all-University retention rate of 79.01. This finding provided evidence of Wildcat Warm-up participation effecting retention to sophomore year.

The study found significant differences at the 10 percent significance level between first semester grade point averages for students who participated in Wildcat Warm-up ($M = 2.83$, SD

= .93) and those who did not ($M = 2.74$, $SD = 1.03$). While differences existed, less than 1 percent of the variance was attributed to participation in Wildcat Warm-up. When comparing second semester grade point averages, no significant differences existed even at a 10 percent significance level. Essentially, the researcher confirmed that differences existed between students regarding grade point averages, yet very little of the difference could be attributed to Wildcat Warm-up attendance. The same multitude of factors that influence students' decisions to remain enrolled at the institution could be said to have influenced academic performance and, ultimately, grade point average.

Residency status had no statistically significant impact at the 5 percent significance level on retention from freshman to sophomore year. The researcher was surprised to learn this. Research by Nora, Barlow, and Crisp (2005) provided support that differential tuition rates between instate versus out-of-state students impact retention. The researchers found that 72.9 percent of students who paid instate tuition returned for the sophomore year while only 44.7 percent of students paying the nonresident tuition rate returned. The same study found that students who paid no tuition returned for the sophomore year at a rate of 81.7 percent. Kansas State University had tuition rates of \$198.47 per credit hour for Kansas residents while out-of-state students paid \$541.95 per credit hour. A factor that was not included in the study was scholarship information or other financial information to provide additional vigor to the criterion of the ability to pay.

The portion of the study that utilized logistic regression analysis allowed for the creation of odds ratios for the predictor variables of the study. Holding gender and Wildcat Warm-up participation at a fixed value, there was a 13.7% increase in the odds of retaining a student from freshman to sophomore year for every one point increase in the ACT composite score. Holding ACT composite score and Wildcat Warm-up participation at fixed values, the odds of a female student being retained from freshman to sophomore year was 51% higher than for males. Holding ACT composite score and gender at fixed values, the odds of a Wildcat Warm-up participant being retained to sophomore year was 31% higher than for a non-participant.

The odds ratios provided a view of important information related to retention as it was impacted by the predictor variables. The information provided was consistent with research consulted during the literature review for this study. DuBrock (1999) and Astin and Oseguera (2005) found that female students had advantages of their male peers in retention and degree

completion. ACT, Inc. (2006) provided support for gains in retention when higher ACT composite scores are considered. First semester grade point average was consistent with the literature. Pascarella and Terenzini (2005) reported in their book *How College Affects Students* that academic performance, specifically, students' grades "make statistically significant, frequently substantial, and indeed often the largest contribution to student persistence and attainment" (p. 397). Additionally, grades achieved in a student's first year of college had a strong and direct influence on persistence into the second year.

Ultimately, bivariate correlations between five predictor variables and retention from freshman to sophomore year showed little correlation between Wildcat Warm-up attendance, residency, and gender when considering retention. ACT composite score accounted for 4 percent of the variability in retention from freshman to sophomore year and first semester grade point average accounted for nearly 27 percent of the variability in retention from freshman to sophomore year. This study provided additional support for the work of Pascarella and Terenzini (2005) and reliability and validity information provided by ACT, Inc (2007).

The descriptive statistics revealed information important to future planning of the program. Female students (56.7%) tended to participate in the program at a higher rate than male students (43.3%). This rate of participation by gender does not reflect the enrollment of female students (48.4%) and male students (51.6%) in the general undergraduate population at the institution. According to the United States Census Bureau (2004) the national enrollment of students in college by gender more closely matched the Wildcat Warm-up participation data. The census data reported 57 percent of college students in the United States were female while 43 percent were male.

A comparison of participation by residency status found that Wildcat Warm-up participants were 65.8 percent Kansas residents and 34.2 percent out-of-state residents. The undergraduate student population at the institution was 84.6 percent Kansas residents and 15.4 percent out-of-state students. Out-of-state students participated in the extended orientation at a higher rate than the undergraduate population. The benefits associated with an extended orientation may have been more attractive to students who were attending an institution further away from home. One can assume out-of-state students were less familiar with the campus and knew fewer people.

The ACT composite score was slightly higher for both Groups A and B when compared to the fall 2007 freshman class mean ACT composite score. The mean ACT composite scores were 24.19 ($SD = 4.20$) and 24.20 ($SD = 4.22$) for Groups A and B respectively. The institution's mean ACT composite score for the freshman class in fall 2007 was 23.8.

In summary, not finding significant results may be attributed to the length of time between the intervention or the measures used in the study. On average, 28 weeks separated the end of the extended orientation program and the end of the first semester and an additional 24 weeks separated the end of the second semester of the freshman year. Nearly 75 weeks separated the end of Wildcat Warm-up and the 20th enrollment day of the sophomore year which was the date at which retention was determined. Internal validity was threatened by history, maturation, fatigue, and other aspects related to the passage of time. Numerous experiences, both good and bad, could have influenced the study participants during the gap in time.

CHAPTER 5 - Summary, Conclusions, Recommendations

This chapter presents a summary of the study and conclusions. In addition, recommendations for future research are presented.

Summary

This study was an investigation of the impact of an extended orientation program, Wildcat Warm-up, on academic performance and retention. The study sought to quantify differences between students at Kansas State University who participated in the extended orientation program and those who did not attend. The intervention was Wildcat Warm-up attendance. Institutional data was analyzed to compare program attendees and peers in a matched group.

Participants were 1668 students at Kansas State University in four entering classes from 2004 to 2007. Institutional data was used to select domestic, first-year undergraduate students at Kansas State University in four entering classes from 2004 to 2007. First-year students were defined as students in their first semester at Kansas State University classified with a full-time enrollment status. Students who had participated in Wildcat Warm-up were combined in a cohort (Group A). A matched group (Group B) was selected from all domestic, full-time, first-year undergraduate students enrolled in the fall semesters for 2004 to 2007. The matched group was selected based on ACT score, gender, and residency status criteria.

The research questions addressed by this study were:

1. Is there a relationship between participation in Wildcat Warm-up, an optional extended orientation program offered at Kansas State University, and retention from freshman to sophomore year when compared with a matched group who did not attend the program?
2. Are there significant differences in academic performance, measured by grade point average, at the end of the first and second semesters of the freshman year between participants in Wildcat Warm-up when compared with a matched group of those who did not attend the program?

3. Are there reliable associations between students' entry characteristics (gender, ACT composite score, and residency) and freshman to sophomore retention rate when considering Wildcat Warm-up participation?

Quantitative data analysis methods were used in this study. Data was collected in Microsoft Excel and imported into SPSS for analysis. The participant group and comparison group were analyzed using descriptive statistics. The first two research questions provided a preliminary analysis of the overall impact of the Wildcat Warm-up program on the two measures identified for the study - freshman grade point averages and retention. The first research question and hypothesis were explored with a two-group independent samples Chi-squared test with a dichotomous response variable. The second research question and hypothesis were explored with a multiple regression analysis (one-way ANOVA) for both first and second semester grade point averages. The third research question and remaining hypotheses were explored through a logistic regression analysis using the forward stepwise method. The significance level for all tests was 0.05.

Conclusions

This study found there was a relationship between retention from freshman to sophomore year and Wildcat Warm-up participation. The descriptive statistics revealed that 82.4 percent of students in Group A were retained to sophomore year, compared to 78.3 percent of Group B. With a national average retention rate of 81.7 percent (Act National Collegiate Retention and Persistence to Degree Rates, 2006), the group of students who experienced the extended orientation were retained at a rate higher than the national average. The matched comparison group was retained at a rate lower than the national average. The Chi-square analysis in the study did find an association between *retention* and *Wildcat Warm-up participation*. The strength of the association was small, but significant. When the meaningfulness of the relationship was tested, Wildcat Warm-up participation was found to account for less than 1 percent of the variance. The relationship presented statistical, but not practical significance.

In addition, the study found slight significant differences between first semester grade point averages for students who participated in Wildcat Warm-up and those who did not. While differences existed, less than 1 percent of the variance was attributed to participation in Wildcat

Warm-up. When comparing second semester grade point averages, no significant differences existed.

The portion of the study that utilized logistic regression analysis allowed for the creation of odds ratios for the predictor variables of the study. Holding gender and Wildcat Warm-up participation at a fixed value, there was a 13.7% increase in the odds of retaining a student from freshman to sophomore year for every one point increase in the ACT composite score. Holding ACT composite score and Wildcat Warm-up participation at fixed values, the odds of a female student being retained from freshman to sophomore year was 51% higher than for males. Holding ACT composite score and gender at fixed values, the odds of a Wildcat Warm-up participant being retained to sophomore year was 31% higher than for a non-participant. The study found residency status had no impact on retention from freshman to sophomore year.

Ultimately, bivariate correlations between the four predictor variables and retention from freshman to sophomore year showed little correlation between Wildcat Warm-up attendance, residency, and gender when considering retention. ACT composite score could account for 4 percent of the variability in retention from freshman to sophomore year and first semester grade point average accounted for nearly 27 percent of the variability in retention from freshman to sophomore year. The researcher was not discouraged by the inability to explicitly account for the variability in retention from freshman to sophomore year with all of the predictor variables. The odds ratios provided by the logistic regression analysis presented encouraging results for Wildcat Warm-up program effect.

Vincent Tinto (1975, 1993) presented an interactionist theory for student departure that focused on the interaction between the student and the environment. The researcher considered this model in the design of the study and in the review of the results. The selection of independent variables was meant to address characteristics described by Tinto as *Pre-Entry Attributes*. *ACT composite score*, *gender*, and *residency* were used to speak to the attributes or characteristics that could influence students' goals or commitments. Goals and commitments represented the second component of Tinto's model. Institutional experiences, integration, goals and commitments, and the outcome all represented other aspects of the model.

The extended orientation program, Wildcat Warm-up, was classified as an experience that fit with the first goal and institutional commitment component of Tinto's model (1975, 1993). Support for this classification was found in the timing of the event and in the design of

the program. Wildcat Warm-up took place before the students begin classes and formally entered the University system in a substantial, ongoing way. The content of the programming focused on learning objectives of increasing knowledge about the campus and programs and services available to students; creating strong connections between the participants (new students), current students, faculty, staff and alumni; and translating the values, culture, and traditions that make attendance at Kansas State University a unique and valuable undergraduate experience. The realization of these goals potentially increased institutional commitment on the part of students.

Following the connections in the model, the researcher found continued support for this concept in the implied impact on the students' institutional experiences related to the academic and social systems. Formal and information experiences with faculty and staff and students' academic performance characterize the academic systems category. While formal and information experience with peer groups and extracurricular activities characterize the social systems category. Eventually, academic and social integration lead to an interface with goals and commitments and the ultimate departure decision.

The study found statistically significant relationships between retention and Wildcat Warm-up participation. Practical significance was not found. Review of Tinto's model led the researcher to conclude that practical significance would be difficult to find given the time and the number of potential interactions between students and their environment from the intervention to the departure decision. Considering Tinto's model, the interactions described as *institutional experiences* and *integration* present a multitude of potential effects that could explain variance in the data. The short duration of Wildcat Warm-up and the length of time between the intervention and the departure decision led the researcher to determine that the small r^2 values were expected and reasonable.

The impetus for the creation for an extended orientation program at Kansas State University was the realization that peer institutions had such programs. Student leadership became aware of this fact and requested a similar program for the campus. A committee of student leaders and faculty and staff met to determine the program objectives and specific program components with consultation from other institutions offering such programs. Small adjustments to the program have been made over time based on program evaluations conducted at the end of each year.

After five years of the program, the time has come for an exhaustive review. Empirical data has been made available as the result of this study and past participants are available for qualitative review. Additionally, Tinto's model, as well as other theories of student departure would be appropriate for a theoretical base for programming considerations.

Research Recommendations

Further research is recommended in the following areas:

1. Future studies of the relationship between orientation programs and retention should include the use of logistic regression. Specifically, this is an underutilized statistic in the social sciences that is just starting to be more popular.
2. Additional research should be conducted to create a framework that could be used at various institutions for practitioners to access and analyze institutional data. Institutional data is often available at little or no cost to the researcher and may provide information to compliment program evaluations conducted by most orientation programs on an annual basis.
3. A similar study using additional demographic data such as high school grade point average, first-generation status, and financial information could provide additional information on the students included in this study. High school grade point average was cited as one of the best predictor of college academic performance (Tross, Osher, & Kneidinger, 2000).
4. A similar study incorporating qualitative data that provides information on the reasons for student departure would add valuable information to the results of the study. Those findings may help pinpoint areas for action by the institution.
5. A similar study incorporating aspects related to students' institutional experiences such as living in residences halls, fraternity or sorority membership, campus leadership or involvement measures, and other aspect of social integration would add value to the findings and correspond with Tinto's model.
6. Future studies of the Wildcat Warm-up program should include graduation data. A longitudinal study should be designed to track students to graduation.
7. Investigation into the impact of the Wildcat Warm-up program through interviews with past participants would add rich qualitative data to help with program review.

Additionally, a review of the content and an assessment of the structure of the program are needed. This study supports enhancing or introducing experiences that build on college academic skill development.

8. Future studies of the relationship between orientation programs and retention should focus on a more immediate measure in place of attempting to tie the program to retention to sophomore year or beyond. A mixed-mode survey at the mid-point in the first semester would provide information on the transition or integration to the community (i.e. academic and social integration).
9. Future research should incorporate assessment of the role of self-efficacy and motivation in student success. These factors effect the student departure decision and likely effect the decision to participate in an optional, extended orientation program.

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Appendix A - Wildcat Warm-up Conference Schedule

Day One

3:30 pm	Wildcat Warm-up Check-in/Move-in, Derby Dining Center
5:00 pm	Welcome Presentation, K-State Student Union - K&S Ballrooms
5:45 pm	Small Group Orientation, Small group locations
7:00 pm	“Once a Wildcat, Always a Wildcat” Barbecue, K-State Alumni Center
8:30 pm	Up ‘Til Dawn Celebration, Chester E. Peters Recreational Center
11:00 pm	On your floor, Ford Hall

Day Two

Purple Group

6:30 am	Breakfast, Derby Dining Center
7:45 am	Challenge Course, K-State Challenge Course
11:00 am	Lunch, K-State Challenge Course
11:45 am	Freshen-up Time, Ford Hall
12:45 pm	Diversity Presentation, Kedzie 004
1:45 pm	Small Group, Small group locations
2:45 pm	Honor Code & Student Success, Kedzie 004
3:30 pm	Small Group, Small group locations

Silver Group

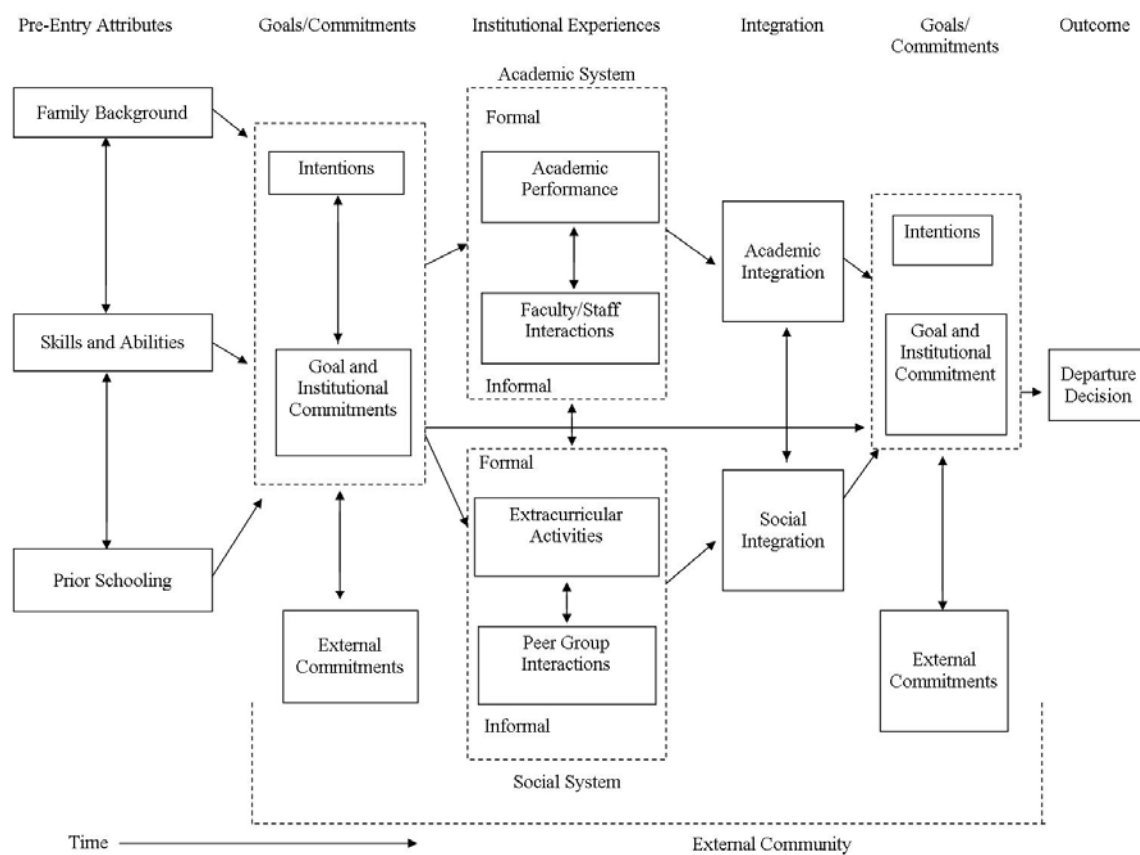
6:30 am	Breakfast, Derby Dining Center
7:45 am	Diversity Presentation, Kedzie 004
8:45 am	Small Group, Small group locations
9:45 am	Honor Code and Student Success, Kedzie 004
10:30 am	Small Group, Small group locations
11:45 am	Lunch, K-State Challenge Course
12:30 pm	Challenge Course, K-State Challenge Course
3:45 pm	Freshen-up Time, Ford Hall

5:00 pm	Dinner, Aggieville
7:00 pm	“Can I Kiss You?” - Mike Domitrz, K-State Student Union, K&S Ballrooms
8:00 pm	Small Group, Small group locations
9:30 pm	K-State Pep Rally, Bill Snyder Family Stadium
10:30 pm	K-State After Hours, K-State Student Union, Courtyard & Forum Hall
12:00 am	On your floor, Ford Hall

Day Three

7:00 am	Breakfast, Derby Dining Center
8:30 am	Organized Activities, Various Campus Locations
9:30 am	Academic Clusters, K-State Student Union, Bosco Student Plaza
10:30 am	Scavenger Hunt, K-State Campus
11:45 am	Involvement Lunch, Alumni Center
1:00 pm	Small Group, Small group locations
1:45 pm	Send Off, Forum Hall
2:15pm	Pack/Check out, Ford Hall

Appendix B - Tinto's Longitudinal Model of Institutional Departure



Appendix C - Orientation Programs: CAS Standards and Guidelines

Part 1. MISSION

The mission of Orientation Programs (OP) must include facilitating the transition of new student into the institution; preparing students for the institution's educational opportunities and student responsibilities; initiating the integration of new students into the intellectual, cultural, and social climate of the institution; and supporting the parents, partners, guardians, and children of the new student.

OP must incorporate student learning and student development in its mission. OP must enhance overall education experiences. OP must develop, record, disseminate, implement, and regularly review its mission and goals. Mission statements must be consistent with the mission and goals of the institution and with the standards in this document. OP must operate as an integral part of the institution's overall mission.

Part 2. PROGRAM

The formal education of students consists of the curriculum and the co-curriculum, and must promote student learning and development that is purposeful and holistic. Orientation programs (OP) must identify relevant and desirable student learning and development outcomes and provide programs and services that encourage the achievement of those outcomes.

Relevant and desirable outcomes include: intellectual growth, effective communication, realistic self-appraisal, enhanced self-esteem, clarified values, career choices, leadership development, healthy behaviors, meaningful interpersonal relationships, independence, collaboration, social responsibility, satisfying and productive lifestyles, appreciation of diversity, spiritual awareness, and achievement of personal and educational goals.

OP must provide evidence of its impact on the achievement of student learning and development.

The table below offers examples of evidence of achievement of student learning and development.

Student Learning and Development Outcome Domains	
Intellectual growth	Examples of achievement indicators: Develops educational goals; Examines information about academic majors and minors; Understands the requirements of an academic degree plan; Examines the core curriculum; Demonstrates knowledge about internships and volunteer opportunities; Develops personal goals; Makes decisions based on complex information from a variety of sources including personal experience, personal values, and orientation programs
Effective communication	Examples of achievement indicators: Examines personal and academic strengths and weaknesses which affect academic plans and communicates that information to academic advisors; Demonstrates the ability to use information on academic policy, student support services, and financial services; Demonstrates the ability to use technological resources; Composes appropriate questions when inquiring about particular requirements, departments, and resources; Appropriately introduces oneself and initiates conversations with others
Enhanced self-esteem	Examples of achievement indicators: Shows respect for self and others; Demonstrates assertive behavior and evaluates reasonable risks with regard to academic course selection and course load when conferring with academic advisors; Produces a schedule of classes in consultation with orientation staff or academic advisors
Realistic self-appraisal	Examples of achievement indicators: Evaluates personal and academic skills, abilities, and interests and establishes appropriate educational plans for the first semester; Ranks academic strengths and weaknesses; Focuses on areas of academic ability and interest and mitigates academic weaknesses; Uses information on course selection, course load, and course schedule in order to construct a schedule; Formulates opportunities for involvement in co-curricular activities

Clarified values	Examples of achievement indicators: Demonstrates ability to evaluate personal values and beliefs regarding relationships, diversity, substance use, academic integrity, and other ethical issues; Analyzes personal, work, and lifestyle values and explains how they influence decision-making in regard to course selection, course load, and level of personal involvement in the campus community; Acts in congruence with values
Career choices	Examples of achievement indicators: Describes career choice options of academic major and minor based on interests, skills, abilities, and values; Identifies the purpose and role of career services in the development and attainment of academic and career goals
Leadership development	Examples of achievement indicators: Demonstrates awareness of leadership opportunities, including those in part-time jobs on and off campus and internships
Healthy behavior	Examples of achievement indicators: Describes personal behaviors and environments that promote health and reduce risk; Identifies services provided to support the advancement of a healthy lifestyle and a healthy campus community; Articulates the relationship between health and the development of life-long goals
Meaningful interpersonal relationships	Examples of achievement indicators: Creates relationships with fellow students, orientation staff, faculty members, academic advisors, and other institution staff to be engaged with the institution in a meaningful way; Demonstrates ability to listen to others' points of view; Treats others with respect
Independence	Examples of achievement indicators: Operates autonomously by attending prescribed student orientation programs while pears and family are attending different programs; Selects, schedules, and registers for academic courses with the advice and counsel of academic advisors and orientation staff; Manages the campus physical environment (i.e. location of buildings, understanding a bus schedule)
Social responsibility	Examples of achievement indicators: Understands the requirements of the codes of conduct; Has knowledge of

	institution governance systems
Collaboration	Examples of achievement indicators: Works cooperatively with others; Seeks the involvement of others; Seeks feedback from others; Contributes to achievement of a group goals; Exhibits effective listening skills
Satisfying and productive lifestyles	Examples of achievement indicators: Determines the balance between academic course load requirements, work, and leisure time; Constructs goals for academic course requirements, work, and leisure time activities; Identifies obstacles that hamper the achievement of stated goals; Decides the importance of functioning on the basis of personal, ethical, spiritual, and moral values
Appreciating diversity	Examples of achievement indicators: Becomes aware of the impact of culture on individuals; Becomes aware of educational offerings related to diversity; Demonstrates an appreciation for diversity and the impact it has on society; Seeks involvement with people different from oneself; Challenges appropriately the abusive use of stereotypes
Spiritual awareness	Examples of achievement indicators: Develops and articulates personal belief systems; Understands the role of spirituality in personal and group values and behaviors; Identifies campus and community spiritual and religious resources
Personal and educational goals	Examples of achievement indicators: Determines personal and academic goals and objectives; Uses personal and academic goals to guide decisions; Considers the effect of one's personal and academic goals on parents, family, and others

OP must be (a) intentional, (b) coherent, (c) based on theories and knowledge of learning and human development, (d) reflective of developmental and demographic profiles of the student population, and (e) responsive to needs of individuals, specific populations, and communities.

OP must aid students and their families (i.e. parents, guardians, partners, and children) in understanding the nature and purpose of the institution, the membership in the academic community, and the relationship to the intellectual, cultural, and social climate of the

institution.

OP should introduce students to the learning and development that will occur throughout the collegiate experience.

OP must continue as a process to address, as appropriate, transitional events, issues, and enrollment, entry, and post-matriculation services and programs.

Components of OP may include credit and non-credit courses, seminars, adventure programs, service learning, summer readings, learning communities, Freshman Interest Groups (FIGs), web-based educational opportunities, comprehensive mailings, electronic communications, and campus visitations and may be administered through multiple institutional offices.

OP must:

- **be based on stated goals and objective**
- **be coordinated with the relevant programs and activities of other institutional units**
- **be available to all students new to the institution, as well as families**

First-year, transfer, and entering graduate students, as well as their families, should be served as distinct populations with specific attention given to the needs of sub-groups such as students with disabilities, athletes, adult learners, under-prepared students, under-represented students, honor students, and international students.

- **assist new students as well as their families in understanding the purposes of higher education and the mission of the institution**

New students should have a clear understanding of the overall purpose of higher education and how this general purpose translates to the institution they are attending. The roles, responsibilities, and expectations of students, faculty and staff members, and families should be included.

- **articulate the institution's expectations of students (e.g., scholarship, integrity, conduct, financial obligations, ethical use of technology) and provide information that clearly identifies relevant administrative policies, procedures, and programs to enable students to make well-reasoned and well-informed choices.**
- **provide new students with information and opportunities for academic and personal**

self-assessment

OP should assist student in the selection of appropriate courses and course levels, making use of relevant placement examinations, entrance examinations, and academic records.

- **use qualified faculty members, staff, or peer advisors to explain class scheduling, registration processes, and campus life**
- **provide new students, as well as their families, with information about laws and policies regarding educational records and other protected information**

OP should emphasize the independence of students in accomplishing their goals while acknowledging their interdependence with their peers and families.

- **inform new students, as well as their families, about the availability of services and programs**
- **assist new students, as well as their families, in becoming familiar with the campus and local environment**

OP for students and families should provide information about the physical layout of the campus, including the location and purposes of campus facilities, support services, co-curricular venues, and administrative offices. Information about personal health, safety, and security should also be included.

- **assist new students, as well as their families, in becoming familiar with the wide range of electronic and information resources available and expectations for their use**

OP should provide information about technological resources used to conduct institutional business and scholarly work including information about student information systems, electronic databases, email, and online course software. Information about how to manage responsible and ethical use of institutional technological resources should also be presented.

- **provide time for time for students to become acquainted with their new environment**

- **provide intentional opportunities for new students to interact with fellow new students as well as continuing students, faculty and staff members**

OP should design and facilitate opportunities for new students to discuss their expectations and perceptions of the campus and to clarify their personal and educational goals.

OP should design and facilitate opportunities for new students to meet their peers and being forming new relationships.

OP must inform students about the history, traditions, and campus cultures to facilitate an identification with and integration into the institution.

Part 3. LEADERSHIP

Effective and ethical leadership is essential to the success of all organizations. Institutions must appoint, position, and empower Orientation Programs (OP) leaders within the administrative structure to accomplish stated missions. Leaders of OP at various levels must be selected on the basis of formal education and training, relevant work experience, personal skills and competencies, and relevant professional credentials. Leaders of OP must promote learning and development in students, apply effective practices to educational processes, and enhance institutional effectiveness. Institutions must establish accountability for leaders and fairly assess their performance.

Leaders of OP must exercise authority over resources for which they are responsible to achieve their respective missions.

Leaders of OP must:

- **articulate a vision for their organization**
- **set goals and objectives based on the needs and capabilities of the population served**
- **promote student learning and development**
- **prescribe and practice ethical behavior**
- **recruit, select, supervise, and develop others in the organization**
- **manage financial resources**
- **coordinate human resources**
- **plan, budget for, and evaluate personnel and programs**
- **apply effective practices to educational and administrative processes**
- **communicate effectively**
- **initiate collaborative interaction between individuals and agencies that possess**

legitimate concerns and interests in the functional area

Leaders of OP must identify and find means to address individual, organizational, or environmental conditions that inhibit goal achievement.

Leaders of OP must promote campus environments that result in multiple opportunities for student learning and development.

Leaders of OP must continuously improve programs and services in response to changing needs of students and other constituents, and evolving institutional priorities.

Part 4. ORGANIZATION and MANAGEMENT

Guided by an overarching intent to ensure student learning and development, Orientation Programs (OP) must be structured purposefully and managed effectively to achieve stated goals. Evidence of appropriate structure must include current and accessible policies and procedures, written performance expectations for all employees, functional workflow graphics or organizational charts, and clearly stated service delivery expectations.

Evidence of effective management must include use of comprehensive and accurate information for decisions, clear sources and channels of authority, effective communication practices, decision-making and conflict resolution procedures, responsiveness to changing conditions, accountability and evaluation systems, and recognition and reward processes. OP must provide channels within the organization for regular review of administrative policies and procedures.

All institutional offices involved in program delivery should be involved in the review of administrative policies and procedures.

Coordination of OP must occur even though a number of offices may be involved in the delivery of structured activities.

The size, nature, and complexity of the institution should guide the administrative scope and structure of OP.

Part 5. HUMAN RESOURCES

Orientation Programs (OP) must be staffed adequately by individuals qualified to accomplish its mission and goals. Within established guidelines of the institution, OP must

establish procedures for staff selection, training, and evaluation; set expectations for supervision; and provide appropriate professional development opportunities. OP must strive to improve the professional competence and skills of all personnel it employs.

Faculty involvement in the development and delivery of OP is essential to its success. Faculty members should be included as part of the overall staffing.

OP professional staff members must hold an earned graduate degree in a field relevant to the position they hold or must possess an appropriate combination of educational credentials and related work experience.

Degree or credential-seeking interns must be qualified by enrollment in an appropriate field of study and by relevant experience. These individuals must be trained and supervised adequately by professional staff members holding educational credentials and related work experience appropriate for supervision.

Student employees and volunteers must be carefully selected, trained, supervised, and evaluated. They must be trained on how and when to refer those in need of assistance to qualified staff members and have access to a supervisor for assistance in making these judgments. Student employees and volunteers must be provided clear and precise job descriptions, pre-service training based on assessed needs, and continuing staff development.

Student staff must be informed as to the limits of their authority, the expectation for appropriate role modeling, and their potential influence on new students.

OP must have technical and support staff members adequate to accomplish its mission. Staff members must be technologically proficient and qualified to perform their job functions, be knowledgeable of ethical and legal uses of technology, and have access to training. The level of staffing and workloads must be adequate and appropriate for program and service demands.

Salary levels and fringe benefits for all OP staff members must be commensurate with those for comparable positions within the institution, in similar institutions, and in the relevant geographic area.

OP must institute hiring and promotion practices that are fair, inclusive, and non-

discriminatory. Programs and services must employ a diverse staff to provide readily identifiable role models for students and to enrich the campus community.

OP must create and maintain position descriptions for all staff members and provide regular performance planning and appraisals.

OP must have a system for regular staff evaluation and must provide access to continuing education and professional development opportunities, including in-service training programs and participation in professional conferences and workshops.

Part 6. FINANCIAL RESOURCES

Orientation Programs (OP) must have adequate funding to accomplish its mission and goals. Funding priorities must be determined within the context of the stated mission, goals, objective, and comprehensive analysis of the needs and capabilities of students and the availability of internal and external resources.

OP must demonstrate fiscal responsibility and cost effectiveness consistent with institutional protocols.

OP should be funded through institutional resources. In addition to institutional funding, other sources may be considered, including state appropriations, student fees, user fees, donations, contributions, concession and store sales, rentals, and dues.

Overnight programs may require students and their families to stay on campus. Recovering room and board costs directly from participants is an acceptable practice. Resources, such as grants or loans, should be available to those students unable to afford the cost associated with orientation.

Part 7. FACILITIES, TECHNOLOGY, and EQUIPMENT

Orientation Programs (OP) must have adequate, suitably located facilities, adequate technology, and equipment to support its mission and goals efficiently and effectively. Facilities, technology, and equipment must be evaluated regularly and be in compliance with relevant federal, state, provincial, and local requirements to provide for access, health, safety, and security.

Cooperation from the campus community is necessary to provide appropriate facilities to implement orientation programs. Whenever possible, a single office location to house personnel

and provide adequate workspace should be conveniently located and suitable for its high level of interaction with the public.

Part 8. LEGAL RESPONSIBILITIES

Orientation Programs (OP) staff members must be knowledgeable about and responsive to laws and regulations that relate to their respective responsibilities. Staff members must inform users of programs, services, and officials, as appropriate, of legal obligations and limitations including constitutional, statutory, regulatory, and case law; mandatory laws and orders emanating from federal, state/provincial and local governments; and the institution's policies.

OP staff members must use reasonable and informed practices to limit the liability exposure of the institution, its officers, employees, and agents. Staff members must be informed about institutional policies regarding personal liability and related insurance coverage options.

The institution must provide access to legal advice for OP staff members as needed to carry out assigned responsibilities.

The institution must inform OP staff and students in a timely and systematic fashion about extraordinary or changing legal obligations and potential liabilities.

Part 9. EQUITY and ACCESS

Orientation Programs (OP) staff members must ensure that services and programs are provided on a fair and equitable basis. Facilities, programs and services must be accessible. Hours of operation and delivery of and access to programs and services must be responsive to the needs of all students and other constituents. OP must adhere to the spirit and intent of equal opportunity laws.

OP must be open and readily accessible to all students and must not discriminate except where sanctioned by law and institutional policy. Discrimination must be avoided on the basis of age; color; creed; cultural heritage; disability; ethnicity; gender identity; nationality; political affiliation; religious affiliation; sex; sexual orientation; or social, economic, marital, or veteran status.

Consistent with their mission and goals, OP must take affirmative action to remedy significant imbalances in student participation and staffing patterns.

As the demographic profiles of campuses change and new instructional delivery methods are introduced, institutions must recognize the needs of student who participate in distance learning for access to programs and services offered on campus. Institutions must provide appropriate services in ways that are accessible to distance learners and assist them in identifying and gaining access to other appropriate services in their geographic region.

Part 10. CAMPUS and EXTERNAL RELATIONS

Orientation Programs (OP) must establish, maintain, and promote effective relations with relevant individuals, campus offices, and external agencies.

OP should be an institution-wide process that systematically involves student affairs, academic affairs, and other administrative units, such as public safety, physical plans, and the business office.

OP should establish policies and practices that address how the institution should interact with parents and families.

Part 11. DIVERSITY

Within the context of each institution's unique mission, diversity enriches the community and enhances the collegiate experience for all; therefore, Orientation Programs (OP) must nurture environments where commonalities and differences among people are recognized and honored.

OP must promote educational experiences that are characterized by open and continuous communication that deepens understanding of one's own identity, culture, and heritage, and that of others. OP must educate and promote respect about commonalities and differences in their historical and cultural contexts.

OP must address the characteristics and needs of a diverse population when establishing and implementing policies and procedures.

Part 12. ETHICS

All persons involved in the delivery of Orientation Programs (OP) must adhere to the highest principles of ethical behavior. OP must develop or adopt and implement appropriate statements of ethical practice. OP must publish these statements and ensure the periodic review by relevant constituencies.

OP staff members must ensure that privacy and confidentiality are maintained with respect to communications and records to the extent that such records are protected under the law and appropriate statements of ethical practice. Information contained in students' educational records must not be disclosed without written consent except as allowed by relevant laws and institutional policies. Staff members may disclose to appropriate authorities information judged to be of an emergency nature, especially when the safety of the individual or others is involved, or when otherwise required by institutional policy or relevant law.

All OP staff members must be aware of and comply with the provisions contained in the institution's human subjects research policy and in other relevant institutional policies addressing ethical practices and confidentiality of research data concerning individuals.

OP staff members must recognize and avoid personal conflict of interest or appearance thereof in the transactions with students and others.

OP staff members must strive to insure the full objective, and impartial treatment of all person with whom they deal. Staff members must not participate in nor condone any form of harassment that demeans persons or creates an intimidating, hostile, or offensive campus environment.

When handling institutional funds, all OP staff members must ensure that such funds are managed in accordance with established and responsible accounting procedures and the fiscal policies or process of the institution.

OP staff members must perform their duties within the limits of their training, expertise, and competence. When these limits are exceeded, individuals in need of further assistance must be referred to person possessing appropriate qualifications.

OP staff members must use suitable means to confront and otherwise hold accountable other staff members who exhibit unethical behavior.

OP staff members must be knowledgeable about and practice ethical behavior in the use of technology.

Part 13. ASSESSMENT and EVALUATION

Orientation Programs (OP) must conduct regular assessment and evaluations. OP must employ effective qualitative and quantitative methodologies as appropriate, to determine whether and to what degree the stated mission, goals, and student learning and development outcomes are being met. The process must employ sufficient and sound assessment measures to ensure comprehensiveness. Data collected must include responses from students, parents, and families and other affected constituencies.

OP must evaluate periodically how well they complement and enhance the institution's stated mission and educational effectiveness.

Results of these evaluation must be disseminated campus wide and be used in revising and improving programs and services and in recognizing staff performance.

Evaluation of student and institutional needs, goals, objective, and the effectiveness of orientation programs should occur on a regular basis. A representative cross-section of appropriate people from the campus community should be involved in reviews of orientation programs.

General Standards revised in 2002; OP content develop/revised in 1986, 1996 & 2005

Note: CAS provides a guideline for the implementation of standards. **Bold** statements are “must” standards and while the rest are considered “should” standards.